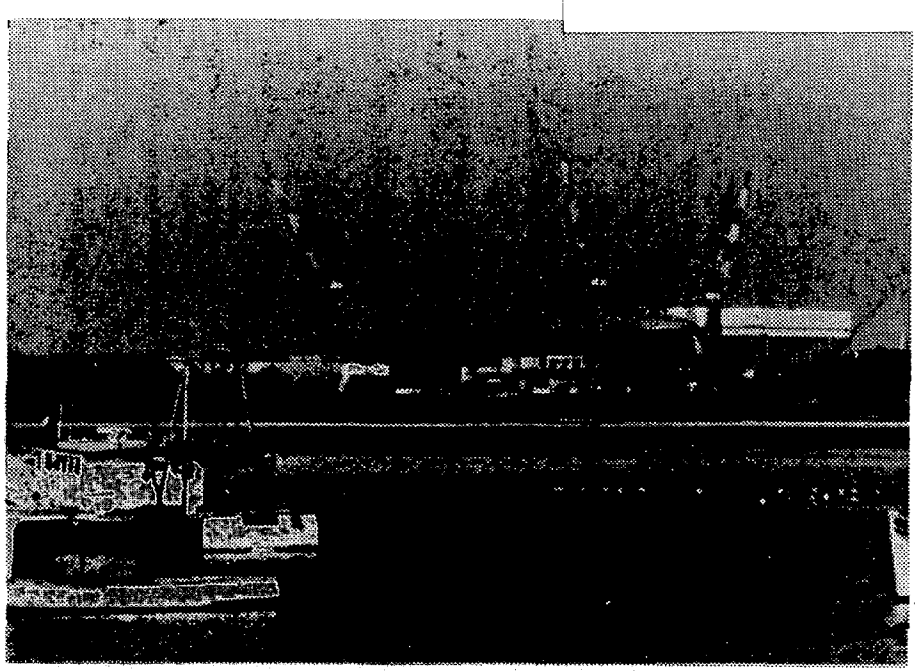

SEABROOK: GROWTH ANALYSIS and DEVELOPMENT PLAN

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Prepared
for the
Seabrook Planning Board
and the
Office of State Planning

June 1981

Prepared
by

The Thoresen Group
Planning Consultants
Portsmouth, New Hampshire

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The Thoresen Group

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Mr. James Champoux, Chairman
Seabrook Planning Board
Municipal Building
Seabrook, New Hampshire 03270

The Thoresen Group is pleased to submit this report to the Seabrook Planning Board.

It presents background data which will be useful to the Board as it develops and refines its Master Plan. In addition, it provides an overview assessment of the impact of Seabrook Station on community services. The recommendations provide possible actions for the Town to pursue in order to allow for orderly and managed growth.

It has been a pleasure working with the Board. We hope that we can continue to be of service as you continue your long range planning efforts.

Respectfully submitted,

A. Robert Thoresen
Principal

Table of Contents

Introduction 1

The Seabrook Planning Board with funding from the Coastal Energy Impact Planning program (administered by the New Hampshire Office of State Planning) embarked on a program which had a number of functions. The program was designed to:

1. Provide background data to the Seabrook Planning Board that would be used to develop a long-range Master Plan for the community.

2. Develop community goals to identify a course of action for the community to pursue.

3. Assess the impact of Seabrook Station (in its operating phase) on various community services.

4. Prepare recommendations to assist the community in dealing with Seabrook Station's direct and indirect impact.

This report addresses these programmatic points in an overview manner. In order to develop this final report, the planning consultants met with the Planning Board on a monthly basis between October 1980 and June 1981. As part of the work program, monthly reports were submitted to the Planning Board. The data developed in those reports formed the basis of this document. Additional and more detailed information is available in the monthly reports.

This planning document makes a number of recommendations that the consultants believe will help the Town confront the challenges of the 1980s particularly relating to the impacts of Seabrook Station on the future economic development of the community.

Community Profile 2

Seabrook, New Hampshire, located on the border of the State of Massachusetts and the Atlantic Ocean, for several centuries was a small rural community. Like many other southern New Hampshire communities, Seabrook in the last thirty years has experienced significant population growth and economic development which has changed the community and will likely change it further.

Unlike any other New Hampshire community, however, Seabrook is the site of a nuclear power generating station, currently under construction. The station is among the largest single construction project ever built in northern New England. It will, once completed, change the course and destiny of the Town of Seabrook.

This section of the report provides a profile of the Town's population, economic, housing, and municipal revenue and expenditure patterns. Most of the data illustrates conditions prior to the commencement of construction of Seabrook Station. Some of the data, however, begins to show the change that has been stimulated since Seabrook Station construction began.

POPULATION CHARACTERISTICS

Statistics on population have been kept since 1790 for all communities in the state. In 1790 Seabrook had a population of 715. The population climbed to 1745 by 1880 and then declined for three decades to a population of 1425 in 1910.

Seabrook's population profile parallels that of many other southern New Hampshire and northern Massachusetts communities. After growth through the early 1800s, the opening up of midwestern agricultural lands and the growth of urban textile centers like Lowell, Lawrence, and Manchester drew people away from rural communities like Seabrook.

After World War II, Seabrook's population began to increase at a faster rate similar to many other southern New Hampshire communities. Between 1950 and 1960, the population grew 23.5 percent. From 1960 to 1970 it grew 38.2 percent. In the decade between 1970 and 1980 the town grew 93.6 percent. By comparison the State grew 24.6 percent. Rockingham County during the

Table 2.1: SEABROOK POPULATION PROFILE

YEAR	POPULATION	YEAR	POPULATION	YEAR	POPULATION
1790	715	1860	1549	1930	1666
1800	628	1870	1609	1940	1782
1810	774	1880	1745	1950	1788
1820	885	1890	1672	1960	2209
1830	1093	1900	1497	1970	3053
1840	1392	1910	1425	1980	5912
1850	1296	1920	1537		

U.S. Decennial Census

same period grew 36.7 percent. This data illustrates that Seabrook has been growing almost four times as fast as the State and about two and one-half times as fast as the County.

Seabrook's growth from the 1950s on can be attributed to a variety of local and non-local factors. Seabrook like many New Hampshire communities was in the path of expansion in the southern tier, located near many employment centers. It was located on a major transportation artery, and it was largely undeveloped prior to the 1950s.

Local factors both encouraged and discouraged community growth. Limited land use regulations and recently the low tax rate served to stimulate local growth. On the other hand, lack of water and sewers and difficult soil conditions all served to limit development.

Density. Using a figure of 9.5 square miles for the surface within Seabrook's boundaries, Seabrook in 1980 had a density of about 622 people per square mile. Table 2.2 below shows some comparative densities.

Table 2.2: PERSONS PER SQUARE MILE

SEABROOK	622
PORTSMOUTH	1725
STATE OF NEW HAMPSHIRE	99

Seabrook is over six times as dense as the State as a whole. However, it is only a little more than one third as dense as Portsmouth, the nearest major city. In comparative terms, Seabrook is more densely settled than many smaller towns in southern New Hampshire. This occurs partially because of Seabrook's small geographic size in comparison to most other municipalities.

Table 2.3: DWELLING UNIT CHARACTERISTICS

	Dwelling Units		Persons Dwelling Unit	
	1970	1980	1970	1980
N.H. STATE	280962	386401	2.62	2.38
ROCKINGHAM COUNTY	53132	76071	2.62	2.50
EXETER	3097	4402	2.87	2.50
HAMPTON	5536	6953	1.45	1.50
HAMPTON FALLS	385	485	3.26	2.84
SEABROOK	1667	3049	1.83	1.94
PORTSMOUTH	8306	9861	3.10	2.66

In terms of persons per dwelling unit, another density measure, Seabrook exhibits characteristics significantly different than most of the neighboring communities. First, Seabrook's persons per dwelling unit for 1970 and 1980 is considerably lower than the State and County. Only Hampton has a lower density per household than Seabrook.

The second observation is that only Seabrook and Hampton experienced increases in the persons per dwelling unit during the decade. This is contrary to both a state and national trends. The reason for the lower densities and the increasing densities is related to the high number of seasonal dwellings. The conversion of seasonal dwellings (in addition to other housing construction) contributes to the increasing density.

HOUSING CHARACTERISTICS

In terms of housing, Seabrook is a community that has changed dramatically, particularly in the last two decades. It has changed from a predominately detached single family residential community to one with a variety of housing types. Table 2.3 shows the change that has occurred since 1967 when the first Master Plan was written.

Table 2.3: DWELLING UNITS BY TYPE 1967-1980

	1967[1]		1977[2]		1980[3]	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Single Family	634	49.7	742	27.6	756	26.5
Single Family (Beach area)	543	92.6	604	22.4	614	21.5
Mobile Homes	73	5.7	653	24.2	757	26.5
Multi Family	24	1.9	693	25.7	730	25.5
	1274		2692		2857	

Sources: 1. Comprehensive Town Plan, 1967.
2. Town Planning Project Report, 1977.
3. The Thoresen Group, from Building Inspector's Records.

Single family homes (both seasonal and permanent) have declined from 92.3 percent of all housing units in 1967 to 48 percent of all housing units in 1980.

Meanwhile, mobile homes and multi family units increased. Mobile homes increased from 5.7 percent in 1967 of all housing stock to 26.5 percent in 1980. Similarly multi family units increased from 1.9 percent to 25.5 percent of all housing stock.

This dramatic shift occurred for a number of reasons. It was part of the national trend away from the traditional single family dwellings toward lower cost housing alternatives. More important, however, the Town had no Zoning Ordinance between 1968 and 1974. This period coincided with a substantial housing boom in southern New Hampshire. Consequently, with

the lack of regulations, several large apartment complexes, and mobile home parks were constructed.

Following the readoption of the Zoning Ordinance in 1974, amendments were made prohibiting the creation of new mobile home parks (or the expansion of existing ones,if not already approved). Stringent lot size controls were placed on multi family dwellings. Those measures, the recessionary economy, and a new ordinance limiting the number of building permits adopted in 1978 all contributed to the dramatic slowdown in housing starts for the remainder of the decade. Between 1977 and 1980 only the number of mobile homes increased significantly. This increase occurred due to the availability of previously approved mobile home sites.

ECONOMIC CHARACTERISTICS

With the population growth there has been a corresponding change in the economic character of the community. Seabrook has experienced a growing job market both locally and within commuting distance - in Massachusetts and elsewhere in New Hampshire. Some of the newer residents have kept their Massachusetts jobs or retired to Seabrook.

In 1967 as part of the Master Plan, Hans Klunder Associates conducted a field survey of places of employment for Seabrook residents. As part of this study, a survey of residents was conducted. A comparison of the results is shown in Table 2.4. The sample size in the 1980 survey is 476 compared to 692 responses in 1967.

Table 2.4: PLACE OF EMPLOYMENT OF SEABROOK RESIDENTS 1967-1980

	1967		1980	
	Number	Percent of Total	Number	Percent of Total
Seabrook	412	59.7	125	25.5
Newbury, Amsbury, Salisbury	116	16.8	36	7.7
Hamptons	28	4.0	7	1.5
Other Locations	135	19.5	126	26.7
Retired			106	22.6
No Answer/Not Employed			76	16.0
Total	692	100.0	476	100.0

This data suggests that employment locations of residents have diversified considerably since 1967. It also shows a significant retirement population in 1980. Of the employed respondents in the 1980 survey, 40.5 percent worked in Massachusetts, and of those 30 percent worked in neighboring Massachusetts towns. The labor force has expanded considerably since 1967, and the data suggests that Seabrook has become less self-contained (living and working in the same town).

A recent study entitled, "Options for an Urban Development Policy", provides additional data on the economic role of Seabrook. The study compared economic characteristics of many communities in the State. One characteristic, the employment center role, is relevant. Using unpublished data the authors arrived at a percentage figure by calculating the number of jobs in a town and dividing by its population. The higher the percent figure, the more the town served as an employment center. Using this method Seabrook was found to have a 51 percent figure, while the State average was 27 percent. Of the 45 communities studied only 3 had a higher ranking than Seabrook. Other area communities ranked thusly: Portsmouth, 34 percent; Exeter, 35 percent; Hampton, 18 percent. This data suggests, even if it might be subject to an error of magnitude,that Seabrook functions as an employment center.

In 1977 as part of the Planning Survey conducted by the Town, the planning assistant surveyed eleven major industrial employers. That group employed 1629. By way of comparison the 1967 Master Plan identified four major industrial employers: Bailey Corporation with 113 employees, Spherex 17, R.A.J.A. Manufacturing 13, and Bar and Bloomfield Shoe Co. 325. In 1980 industrial firms were surveyed again. Since one of the firms did not respond, its 1977 response was removed so that the figures would be comparable. In 1977 the ten firms had 1592 employees. By 1980 they had 1681 employees or a growth of 5.6 percent in about three years.

The survey of major employers is shown in Table 2.5 on the following page. It was prepared from a mail survey conducted as part of this study. This list contains major manufacturing and service employers, but excludes construction employment particularly at Seabrook Station.

In this survey manufacturing enterprises showed stability whereas the service businesses exhibited fairly rapid change. In addition to the survey, a list of all establishments was prepared. Of the 138 establish-

Table 2.5: SEABROOK EMPLOYERS WITH 10 OR MORE FULL TIME EMPLOYEES: 1980*

Name	Number of Employees Full Time	Part-Time	Type of Business
Amesbury Machine	15		Machine Shop
Cargocaire	14	2	Metals Fabrication
Circle Machine	30		Machinery Manufacturing
DeMoulas	75	225	Food Sales
D.G. O'Brien	113	15	Electrical Connectors
Emhart Corp. - Bailey	1000		Auto Parts
House of White Birches	32		Publication
King's Dept. Store	37	15	Retail
K.J. Quinn	42	1	Chemicals
MacDonald's	14	22	Restaurant
Mr. G's Shop and Save	25	57	Food Sales
Ornsteen Chemicals	102	3	Adhesives
Protective Materials	35	2	Armor Manufacturing
Seabrook Bank	31	13	Bank
Seabrook Shellfish	13		Wholesale Clams
Snap-on-Tools	27		Tool Warehouse
Spherex	85		Wheel Manufacturing
Tower Press	45	14	Publishing
Withey Press	10		Printers
Welpro	250	50	Shoe Manufacturing
Yankee Greyhound Racing	280		Race Track
Zayre	50	30	Retail
	2325	449	

*Several employers who were contacted did not respond to the survey. Several food businesses who responded employ less than 5 full time people, but up to 50 part-time people.

ments on the list in 1977, 16 were no longer in business while there were 36 new ones to replace them. Most of these businesses have only one or a few employees on a full time basis. Using an average of two full time employees per business, this would add another 314 jobs in small establishments.

At Seabrook Station construction employment, while left out of the calculations because of its size and fluctuations, has a significant impact.

The number of employees at Seabrook Station has varied considerably at times due to changes in construction stage, financing, and labor problems. In 1979 construction employment at the plant site varied between 2000 and 5000 persons. In January, 1981 it employed approximately 3500 persons with projections to be back to 5000 employees this summer.

When the plant converts to its operational phase (projected to begin in 1984) Seabrook Station is anticipated to have 455 full time employees.

All of this data suggests that Seabrook has developed and expanded significantly as an employment center since the 1967 Master Plan was completed. It provides diversified employment opportunities. Clearly some of this economic development is a spin-off of the Seabrook Station construction, particularly in the service sector. A number of food and other establishments are keyed to the shifts at the Seabrook Station site. This sector is likely to show some decline when Seabrook Station converts to its operational phase and the work force declines.

LAND USE CHARACTERISTICS

The land use pattern in Seabrook is a physical manifestation of the change that has taken place as described in previous sections of this chapter, as well as the natural resource conditions. Historically, most development occurred in the vicinity of Route 1 between what is now Interstate 95 and the salt marsh, and on Seabrook Beach east of Route 1A. Land to the west of the Interstate was largely rural. Land to the east of the salt marsh was predominantly seasonal housing with some seasonal commercial activity.

In the 1960s and 1970s development along Route 107 including the Seabrook Greyhound racetrack, mobile home parks, the Cimarron and other apartment complexes, and commercial and industrial facilities significantly altered the land use character west of the Interstate.

Development up and down Route 1 of a commercial strip variety as well as the construction of the Bailey Plant and Seabrook Station, drastically altered the early historic development pattern in the central portion of the community. Mobile home parks and apartments were located in this area between I-95 and the salt marsh.

The salt marsh, and Hampton-Seabrook estuary, have been well documented in the Municipal Coastal Inventory and Assessment as a significant, natural

resource and land use in Seabrook. While there has been some development e.g. the homes near Cross Beach, this area remains primarily open space. Approximately one fourth of the town's land area contains salt marshes, wetlands, and flood plains.

The 1980 "Comprehensive Park and Recreation Plan" prepared by the Allen Organization inventoried recreation land in Seabrook. The inventory identified four major public park facilities totaling about 83 acres. Sixty acres (of the 83) are school property. It also identified six access points to the ocean, the harbor, and tidal areas; town owned land, public and quasi-public facilities in the region, and private recreational facilities.

Since no tax maps exist of the Seabrook marsh area, it is not possible to ascertain ownership of the area. Nevertheless, it is a major open space land use in the Town.

The Seabrook Beach area has changed the least of the three developed areas of the community. It remains predominantly seasonal cottages (although conversion is taking place). Some commercial activities catering to the Beach users have developed in this area. The State pier is used by Seabrook Station during the construction phase.

Table 2.6 on the following page illustrates the change in land uses that has taken place since 1967. Again the 1967 Master Plan study provides the base. The Town Planning Project of 1977 provides the first update, and this study provides the 1980 update.

The residential category is derived from a consolidation of all residential categories (Table 2.3) with an average square foot allocation for each dwelling type. This yields the acreage figure.

Given Seabrook's dramatic population growth, acreage devoted to housing increased almost 1.7 times from 476 acres in 1967 to 797 in 1980. The single greatest increase was in the utility category which grew 4.4 times from 1.3 percent of the land area to 13.4 percent. The public/semi-public category also grew substantially or 5.2 times from .6 percent to 3.2 percent of the land area.

Table 2.6: LAND USE PATTERNS OVER TIME

	1967[1]		1977[2]		1980[3]	
	No. of Acres	Percent of Total	No. of Acres	Percent of Total	No. of Acres	Percent of Total
Residential	476	8.3	786	13.6	797	13.8
Business	34	.6	148	2.6	166	2.9
Industry	94	1.6	111	1.9	111	1.9
Utilities & Streets	178	3.1	770	13.4	790	13.7
Public/Semi Public	35	.6	168	2.9	182	3.2
Undeveloped	4943	85.9	3777	65.6	3714	64.5
	5760	100.1	5760	100.0	5760	100.0

Sources: 1. Comprehensive Plan, 1967
2. Town Planning Project, 1977
3. The Thoresen Group, from Building Inspections Records, October 1980

The business use category increased significantly over the period reflecting the development of strip commercial activities primarily along Route 1. Between 1967 and 1980 the business category increased by 388 percent from 34 to 166 acres. The industrial category expanded only modestly in comparison.

Seabrook Station is classified as a utility. It accounts for most of the increase in the "Utilities and Streets" category. Since 1967 there has been an upgrading of Route 107 tied into an I-95 interchange and the development of the Race Track. Improvements have occurred on Route 1 and some town roads. In general, new street construction has been limited to the development of mobile home parks and Seabrook Station. Traffic has increased with the growth of the town as a residential and employment center. In 1979 the annual average daily traffic on I-95 in Seabrook was 38,000, on Route 1 was 10,000, on Route 1A, 8,483, and on Route 107 was 3,200.

Undeveloped land declined by some 1229 acres between 1967 and 1980. This represented a 21.3 percent decrease in the amount of vacant land during the period.

COMMUNITY
REVENUES AND EXPENDITURES

The decade of the 1970s was one of development for the Town of Seabrook. The growth in residential, commercial, industrial, and utility sectors had a dramatic effect on the revenue raising capacity of the Town.

By the late 1970s, the change in revenue allowed a significant increase in Town expenditures. Partially because of its expanded tax base, and in recognition of the Town's needs, the Town was able to consider the expansion of municipal services at a time when many other communities were faced with cutbacks in municipal services. In this section the Town's revenue and expenditure patterns in the 1970s are discussed.

Revenue

Revenues in the Town of Seabrook are shown in the two tables on the following pages. Revenues from all sources expanded from $1,032,900 in 1970 to $5,225,690 in 1979, an increase of 409 percent,while the income from the property tax in this period rose by 374 percent. In 1970 the property tax represented 86.2 percent on the entire revenue, while in 1979 it was 80.3 percent. However in the interim years it had declined as low as 54.0 percent in 1974 because of a large bond issue.

In New Hampshire, according to the 1972 U.S. Census of Governments, the property tax represented 85.3 percent of all municipal revenues. In 1972 Seabrook derived 92.4 percent of its revenue from the property tax. Thus Seabrook in the 1970s fluctuated in its reliance in the property tax. On the average during the ten year period, Seabrook placed a lower reliance on the property tax (72.8 percent) as a revenue source than did other New Hampshire municipalities. Nevertheless, it is by far and will continue to be the most important revenue source for the Town.

Revenue from local sources excluding the property tax increased dramatically in the 1970s going from $50,430 in 1970 to $697,720 in 1979, an increase of 1,284 percent. This growth is unusual among New Hampshire communities and can be attributed to several factors: the Seabrook Dog Track income commencing in 1976, the increase in Water Department income commencing in 1979, the increase in the interest received on deposits, and the increase in motor vehicle permit fees throughout the 1970s.

Revenues from State sources were 8.9 percent of the total revenue in 1970 and 3.8 percent in 1979. The Seabrook Annual Report contains no data on

Table 2.7: SEABROOK REVENUE BY SOURCE, 1970-1974

	1970	1971	1972	1973	1974
LOCAL					
Property Taxes	$890,460	$908,040	$989,410	$639,330	$2,109,870
Non-Property Taxes	6,180	11,210	15,180	23,960	55,890
Race Track Bond					1,365,000
Capital Reserve Withdrawal				25,290	
All Other Sources	44,250	51,830	101,410	140,740	169,000
Subtotal	940,890	971,080	1,106,000	829,320	3,699,760
STATE					
Interest and Dividends	10,470	10,110	11,100	13,320	9,430
Rooms and Meals	12,480	14,040	15,730	17,440	21,190
Business Profits	68,610	72,310	23,390	25,780	83,390
All Other Sources	450	7,500	14,970	15,540	17,440
Subtotal	92,010	103,960	65,190	72,080	131,450
FEDERAL					
All Sources				59,860	75,450
TOTAL REVENUES	1,032,900	1,075,040	1,171,190	961,260	3,906,660
Percent Local	91.1	90.4	94.5	86.3	94.7
Percent State	8.9	9.7	5.5	7.5	3.4
Percent Federal				6.2	1.9
Percent Property	86.2	84.5	84.5	66.5	54.0

* All figures rounded to nearest ten dollars

Sources: Annual Reports, Town Warrant, Treasurer's Reports

Table 2.8: SEABROOK REVENUE BY SOURCE, 1975-1979

	1975	1976	1977	1978	1979
LOCAL					
Property Taxes	$1,461,250*	1,937,710	$2,386,640	$2,465,100	$4,220,410
Non-Property Taxes	55,260	67,510	63,900	72,700	66,820
Race Track		91,300	97,200	96,250	96,700
Bond				250,000	
Capital Reserve Withdrawal				86,890	
All Other Sources	195,710	174,880	191,430	274,790	534,200
Subtotal	1,712,220	2,271,400	2,739,170	3,245,730	4,918,130
STATE					
Interest and Dividends	16,700	20,840	30,770	32,620	21,570
Rooms and Meals	31,800	35,630	35,630	38,730	35,630
Business Profits	87,000**	91,940	96,540	101,370	104,630
All Other Sources	16,970	23,610	17,020	29,880	37,360
Subtotal	152,470	172,020	179,960	202,600	199,190
FEDERAL					
All Sources	46,280	136,630	107,510	98,680	138,370
TOTAL REVENUES	1,910,970	2,580,050	3,026,640	3,547,010	5,225,690
Percent Local	89.6	88.0	90.5	91.5	93.6
Percent State	8.0	6.7	5.9	5.7	3.8
Percent Federal	2.4	5.3	3.6	2.8	2.6
Percent Property	76.5	75.1	78.8	69.5	80.3

*Rounded to nearest ten dollars
** Estimates
Source: Annual Reports

Business Profits. Assuming 87,000 for 1975, the average annual revenue from the State in the 1970s was $137,093 or 5.5 percent of the municipal revenue. The revenue from the State increased from $92,010 in 1970 to $199,190 in 1979, an increase of 116 percent.

Revenues from Federal sources in the early 1970s were non-existent. In 1973 the Town of Seabrook received $59,860 in Federal Revenue Sharing. Federal funds increased to $138,370 in 1979, an increase of 131 percent.

Expenditures

The expenditure data for the Town of Seabrook provides an indication of the growth and priorities in Town services throughout the 1970s. Municipal expenditures for the Town of Seabrook increased by 609 percent from 1970-1979 reflecting the growth in the provision of municipal services, equipment and facilities. Tables 2.9 and 2.10 on the following pages contain data on the Town of Seabrook expenditures in the 1970s by governmental function. Table 2.11 below indicates the change which occurred.

Table 2.11: TOWN OF SEABROOK EXPENDITURES, PERCENT CHANGE, PERCENT TOTAL

	1970-1979 Per. Change	1970 Per. of Tot.	1979 Per. of Tot.
General Government	261	14.2	7.2
Protection of Persons & Property	473	25.9	27.8
Health	663	7.1	7.6
Highways and Bridges	272	24.2	12.7
Libraries		0	.8
Public Welfare	7	3.6	.5
Patriotic Purposes	169	.5	.2
Recreation	5224	1.4	10.3*
Public Service Enterprise	168	12.6	4.8
Unclassified	606	3.9	3.8
Debt Service	2488	6.0	22.0
Capital Outlay	1983	.7	2.1
TOTAL	609	100.1	99.8

*Expenditure for Chase Homestead.
Source: Annual Reports.

Table 2.9: TOWN OF SEABROOK EXPENDITURES, 1970-1974

	1970	1971	1972	1973[1]	1974[2]
General Government	$47,500	$31,880	$37,620	$45,470	$72,390
Protection of Persons and Property	86,640	115,220	137,900	243,010	302,000
Health	23,740	30,620	36,230	61,860	70,380
Highways & Bridges	80,880	71,210	73,500	114,010	143,410
Libraries					
Public Welfare	12,130	11,940	20,490	20,220	26,900
Patriotic Purposes	1,780	1,830	1,900	1,800	10,440
Recreation	4,600	5,120	5,480	5,810	11,410
Public Service Enterprise	42,050	46,040	55,440	18,060	18,850
Unclassified	12,920	11,390	35,450	46,470	30,670
Debt Service	20,210	16,440	9,520	2,730	25,640
Capital Outlay	2,400	3,000	1,810		
TOTAL	334,850	344,680	415,340	564,440	717,090

Rounded to the nearest ten dollars
Source: Annual Reports, Warrant Article except as noted in footnotes.
1. Expenditure data is taken from pages 21-36 in the 1973 Annual Report.
2. Expenditure data is taken from pages 26-48 in the 1974 Annual Report.

Table 2.10: TOWN OF SEABROOK EXPENDITURES, 1975-1979

	1975	1976	1977	1978	1979
General Government	$76,850	$113,510	$99,350	$132,160	$171,490
Protection of Persons and Property	352,950	399,050	428,410	519,610	660,350
Health	63,660	95,050	232,840	247,020	181,090
Highways & Bridges	144,970	125,100	160,480	118,540	301,230
Libraries	10,000	14,810	15,470	16,380	18,880
Public Welfare	35,800	35,620	24,540	14,870	13,030
Patriotic Purposes	1,930	2,040	5,850	3,860	4,780
Recreation	14,240	15,690	15,360	18,650	244,900
Public Service Enterprise	114,060	106,300	146,750	164,700	112,830
Unclassified	84,920	41,320	60,530	61,690	91,250
Debt Service	34,680			18,910	523,030
Capital Outlay	3,000		3,000	30,000	50,000
TOTAL	837,060	948,490	1,192,580	1,346,390	2,372,860

Rounded to the nearest ten dollars.
Source: Annual Reports, Statement of Payments

General Government includes the Town officers' salaries and expenses, reapprasial of property and other general governmental expenses. This function expanded from an expenditure of $47,500 in 1970 representing 14.2 percent of total 1970 expenditures to $171,490 in 1979. Although its expenditure increased 261 percent in the 1970s, by 1979 it only represented 7.2 percent of the budget. This indicated slower growth than other budget expenditures.

Protection of Persons and Property includes police, fire, planning and zoning, civil defense, and conservation. Most of the expenditures are police and fire expenditures. This category grew from $86,640 in 1970 (25.9 percent of the total expenditures) to $660,350 in 1979 (27.8 percent). In the late 1970s expenditures in this category increased substantially with an overall increase of 473 percent in the decade. Expenditures within the category include the purchase of capital equipment and additional staff.

Health includes ambulance, health, mosquito control, town dump and garbage collection. The town dump and garbage represent most of the expenditures in the category. This expenditure grew from $23,740 in 1970 (7.1 percent of the total) to $181,090 in 1979 (7.6 percent of the total). This decade increase of 663 percent reflected the substantially increased cost of rubbish collection. In 1977 and 1978 large allocations were made for RESCO.

Highways and bridges contain public works functions like summer and winter road maintenance, road construction, street lighting, and dock construction and maintenance. This function grew from $80,880 in 1970 (24.2 percent of the total) to $301,230 in 1979 (only 12.7 percent of the total) for an overall decade increase of 272 percent. This function actually remained fairly constant in expenditures from 1973 to 1978, but had a dramatic increase in 1979 when the Town purchased additional road maintenance equipment.

In the early 1970s there were no library expenditures in Seabrook. Starting in 1975 an annual allocation was made to the Brown Library Association. Although not owned by the Town, this library serves as the Town library. The 1979 expenditure of $18,880 represent only .8 percent of the Town's total expenditures.

 Public Welfare includes the town poor and old age assistance. This category

started the 1970s with an expenditure of $12,130, increased to $35,620 by 1976, then decreased significantly in 1977 and 1978, ending the decade at $13,030. In 1970 Public Welfare represented 3.6 percent of the expenditures; in 1979 it was only .5 percent. This function had the lowest percent increase in the 1970s, only 7 percent.

Patriotic Purposes usually includes memorial day festivities. In the 1970s expenditures were particularly high in 1974 due to the U.S. Bicentennial Fund and in 1977 due to Old Home Day. This category only represented .5 percent of the expenditures in 1970 and .2 percent in 1979.

Recreation had a very low expenditure from 1970-1978, only 1.4 percent of the 1970 budget and .1 percent in 1978. Its dramatic increase in 1979 was due to the purchase of the Chase Homestead. This function played a small part in town expenditures in the 1970s. Since 1979 this category has included land and building acquisition, recreation study, and then recreation staff. Recreation dollars in the 1980s represent a higher share of the town expenditures.

Public Service Enterprise represents the cemetery, water and sewer expenditures. The cemetery accounts for about twenty percent of the expenditure. Most of the allocation is to the Seabrook Water Department. There have been several water and sewer studies in the 1970s within this function to address these pressing municipal needs. Public Service Enterprise has grown from $42,050 in 1970 (12.6 percent of the total) to $112,830 in 1979 (4.8 percent of the total). The peak expenditure year in the 1970s was 1978 ($164,700). This category has shown a roller coaster effect with only the cemetery component steadily increasing its expenditures in the 1970s.

Unclassified includes employee retirement and Social Security (a "fixed" increasing cost), legal and damages, advertising and regional associations, discounts, abatements and refunds. Over half of these expenditures are for retirement and Social Security. It has gone from an expenditure of $12,920 in 1970 to $91,250 in 1979, although this increase was not consistent throughout the decade. However in both 1970 and 1979 this category represented almost the same percent of the total town expenditure (3.9 and 3.8 percents respectively).

Debt Service decreased the first four years of the 1970s, was non-existent in 1976 and 1977, but in 1979 it became a major expenditure representing 22 percent of the total. This change can be attributed to the increased

tax base in Seabrook due to the Seabrook Station construction, thus allowing the Town to undertake major municipal improvements for which they issued bonds. Likewise capital reserve funds of a much larger dimension were set aside in 1978 and 1979.

Special articles were incorporated in their respective functions, thus accounting for several category's major capital expenditure increases.

The Table 2.12 below contains the town's expenditures in 1980.

Table 2.12: 1980 SEABROOK TOWN EXPENDITURES

	AMOUNT	PERCENT OF TOTAL
General Government	$214,090	7.9
Protection of Persons and Property	940,250	34.6
Health	142,970	5.3
Highways and Bridges	309,040	11.4
Libraries	16,590	.6
Public Welfare	43,310	1.6
Patriotic Purposes	16,900	.6
Recreation	74,390	2.7
Public Service Enterprise	346,800	12.8
Unclassified	97,720	3.6
Debt Service	215,120	7.9
Capital Outlay	300,000	11.0
TOTAL	2,717,270	100.00

These figures reflect the purchase of capital equipment in the protection of persons and property, health, and highways and bridges (public works) functions. The capital outlay is for the new town hall. The recreation function includes money for a recreation plan and recreation commission. Public Service Enterprise includes water related expenditures for improvements. The Town is upgrading its facilities, equipment, and service utilizing its increased tax revenue.

Inventory of Valuation

The summary inventory of valuation in Table 2.13 on the following page shows a slowly increasing rate in the early 1970s. Most of the increase between 1970 and 1974 was in the building valuation, which showed an increase of 66 percent in this period. The public utilities (water, gas, and electricity) remained constant or increased only slightly in valuation. The main increase in factory buildings was in 1971-1972.

In the late 1970s Seabrook experienced a tremendous growth in valuation, most of which can be attributed to the construction of Seabrook Station, the nuclear power plant. The following increases in assessed valuation occurred from 1970-1979: land: 312 percent, buildings: 193 percent, factory buildings: 141 percent, water utilities: 206 percent, gas utilities: 144 percent, electric utilities: 36,747 percent, and mobile homes: 662 percent. The total valuation increased by 988 percent.

The highly significant figure is obviously the increase in electric public utilities valuation from 1970 to 1979 of 36,747 percent. This valuation represents more than two thirds of the Town's total valuation.

Aside from the extraordinary growth in the electric utility value, the second highest growth occurred in the mobile home category. After that, the land value showed an increase of 312 percent during the same period.

In summary, the data presented in this profile reflects a community experiencing dramatic change particularly in the decade of the 1970s. The change was manifested by extensive housing construction, commercial strip development, increased employment opportunities, industrial development, Seabrook Station construction, and expansion of community revenues and expenditures.

Unlike most other rapidly growing southern New Hampshire communities, Seabrook's municipal resources were not stressed because the tax base was growing (due to Seabrook Station) at a rate that compensated for increased expenditures. It became a tax "rich" community in the sense that the total assessed valuation per capita increased dramatically. For example, in 1970 Seabrook had $9,566 of total assessed value per capita. By 1980 that figure had increased to $77,419 per capita or over eight times what it was a decade earlier. As Seabrook enters the 1980s it does so under vastly changed circumstances.

Table 2.13: SEABROOK SUMMARY OF VALUATION, 1970–1979

	1970	1971	1972	1973	1974
Land	8,976,470	8,979,245	9,226,550	9,486,355	10,296,655
Bldg.	15,836,510	17,040,369	18,914,010	21,508,560	26,332,910
Factory Bldg.	3,149,600	3,179,100	4,006,000	4,009,450	4,022,800
Public Water	17,300	17,300	17,300	17,300	17,300
Public Gas	134,950	140,750	140,750	140,750	140,750
Public Electric	601,150	629,051	629,050	629,050	629,050
Mobile Homes	667,300	349,550	474,050	N/R	768,500
Boats	3,100	2,800	4,735	N/R	4,895
Total Valuation	29,205,630	30,338,156	33,412,445	36,401,678	42,212,860
Exemptions	198,600	258,350	264,850	199,500	207,700
New Valuation	29,007,030	30,079,806	32,147,595	36,202,178	42,005,160

	1975	1976	1977	1978	1979
Land	10,444,230	42,170,100	37,043,585	36,765,435	36,985,385
Bldg.	27,005,360	41,204,600	49,506,465	44,466,115	46,372,415
Factory Bldg.	4,804,250	4,909,550	5,545,450	6,422,700	7,590,200
Public Water	17,300	53,000	53,000	53,000	53,000
Public Gas	140,750	329,585	329,585	329,585	329,585
Public Electric	629,050	2,012,100	12,179,500	103,978,800	221,505,500
Mobile Homes	864,300	1,564,150	4,132,000	4,490,500	5,083,800
Boats					
Total Valuation	43,908,140	92,243,085	101,854,385	196,506,135	317,919,885
Exemptions	221,550	685,600	870,000	1,182,117	1,465,000
Net Valuation	43,686,590	91,557,485	100,984,385	195,324,018	316,454,885

Source: Annual Reports
N/R - not reported.

Seabrook Station Impact Assessment 3

An important component of this project is to analyze the effect that Seabrook Station has had on the Town's municipal services and facilities, and to determine the impact that Seabrook Station will have on the community in its operational phase. This assessment was primarily developed through interviews with municipal officials and: (1) analysis of the municipal services, facilities, and related trends, particularly in the 1970s, (2) interviews with and information supplied by Mr. Bruce Beckley, Manager of Nuclear Projects for the Public Service Company of New Hampshire, and (3) a review of the experience and discussion with officials of other primary New England host communities of nuclear power plants.[1]

While a nuclear power plant has a life expectancy of 40-50 years. it is during construction that the community experiences the greatest change in the demand for municipal services, the dramatic increase in the valuation (and tax revenue), and the secondary, often unanticipated pressures of growth-residential, commercial, industrial and municipal. In Seabrook's case, both the Public Service Company's nuclear power plant and numerous other developments (mobile home parks, Cimarron Apartments, and commercial business) made the decision to locate in Seabrook when no local zoning regulation were in effect. When the Public Service Company announced its intentions to construct a nuclear power plant, it was no secret that the tax base effect on the community would be favorable. With no local zoning regulations, the Town was in no position to control or channel the development which rapidly occurred. By the time that a Zoning Ordinance was approved (1974), changes had already taken place which, perhaps indirectly, were due to the anticipated Seabrook Station.

In part due to the economy (inflation) and to the repeated delaying actions caused by court challenges, administrative hearings, and regulatory delays, Seabrook Station is taking much longer to construct than originally planned. Seabrook I is now scheduled to be on line in 1984 and Seabrook II in 1986.

1. See The Thoresen Group, "Memorandum", "A discussion of the effects that a nuclear power plant has on its host community based on the experience of other, particularly New England, communities." April 3, 1981.

According to the May 1981 "Light Lines," a PSNH insert in the electric bill, "50% of Unit 1 and common facilities (are) completed, and about 8% of Unit 2 (are) completed." The 17,150 foot long undersea tunnel has been drilled and connected to vertical shafts 7,000 feet off Hampton Beach.

In the late 1960s, nuclear power plant construction took about four years. The effect on the town consisted mainly of: 1) temporary high demand for housing of construction workers (3-5,000) depending on the isolation of the plant and ability of the work force to commute,2) considerable traffic congestion, particularly as the shifts changed, and 3) increased demand for municipal services (water, police, schools). Much of this demand appeared temporary in nature. As the construction period lengthened, the effect on the community increased.

In Seabrook's case only six percent of the workers (100) in June 1978 lived in Seabrook.[2] A higher percent of in-migrant Seabrook workers lived in apartments and mobile homes than those who already lived in the community. The new mobile home parks and the apartment complexes benefited from the Seabrook Station work force, as did several fast food businesses which catered specifically to the work force.

One of the effects of all this growth in Seabrook was a severe water shortage. By the late 1970s the Town had passed a water moratorium, which had the effect of curtailing growth. There was evidence of increased commercial conversions and traffic congestion, especially when the work force changed shifts at Seabrook Station. These shift changes and the anti-nuclear demonstrations necessitated additional police department work The municipal government spent additional administrative time on building inspections, permits, and planning problems. Seabrook, in many ways, was fortunate that its water shortage and natural development constraints (salt marsh, flood plains, wetlands, and beach) prevented even more growth pressures.

A review of other communities' experience with a nuclear power plant indicated that those communities with strong land use controls in place, such as Waterford, Connecticut, had fewer problems with growth, both in terms of

2. See: Strafford Rockingham Regional Council, "Power Plant Construction; What Does It Mean To My Town?", February 1979.

municipal services and costs and development pressures. The communities without such controls in place, such as Plymouth, Massachusetts, adopted stronger land use controls as the nuclear power plant was under construction and came on line. One community, Scriba, New York, has not adopted land use controls, and experienced extensive growth.

The period of construction of the nuclear power plant allows the Town time to improve its administrative functions, prepare for special needs of the plant, and address municipal facility and service needs. This chapter focuses on the impact of Seabrook Station's operating phase on the community.

When Seabrook Station is fully operational, it is expected to employ 405 full time plant personnel. In addition, the plant will have 50 security personnel. The operations personnel will be divided into six shifts broken down as follows: two day-time shifts, plus one additional shift during the day in ongoing training, one evening shift, one night shift, and one off shift.

During the time of plant overhaul and cleaning, there will be some 500-1,000 additional workers brought in for about one month per year. As of January 1, 1981, Public Service Company had hired 100 of the operations personnel. They are currently undergoing training on the operation of the plant.

HOUSING

With a total employment level of about 455, Seabrook Station will be a moderately large employer, but less than half the size of Seabrook's largest employer, the Bailey Corporation.

In order to project housing demand, a review of the existing pattern is useful to give some indication of the locational preferences of the employees. For example, in January 1981, of the approximately 3,500 construction employees, 5.6 percent reside in Seabrook. Of the 100 operations personnel that have been hired, five percent live in Seabrook.

In the current construction work force, 56.7 percent live in other New Hampshire communities; 20.4 percent live in Massachusetts; 11.6 percent live in Maine; and 5.9 percent live in other locations.

If this trend continues, a fairly small number of employees and their

families may reside in Seabrook. The consultants believe there will be a moderate increase in residency in Seabrook. The technical and professional personnel employed at Seabrook Station are anticipated to have pay ranges between $15,000 and $45,000 per year. Such salary levels will give most employees considerable flexibility in housing and locational choices.

Below are projected housing demands based on the percentage of the work force living in Seabrook.

Operating Work Force	Percent Residing in Seabrook	Housing Unit Demand
455	5%	23
455	10%	46
455	20%	91
455	25%	114
455	50%	228

If each construction employee currently residing in Seabrook occupies an individual dwelling unit, there would be 196 dwelling units in Seabrook currently occupied by construction workers. When the construction is completed, a high percentage of those employees will presumably move to other nuclear construction sites. Such an exodus would free up housing units for operations employees.

Community Impact: It is the judgement of the consultants that the number of permanent employees residing in Seabrook will not exceed twenty percent of the work force, and will probably be closer to ten percent. If twenty percent resided in Seabrook, there would be a demand for less than 100 housing units. Using Seabrook's population per dwelling unit of 1.96, there would be 196 more people in Seabrook. Using the State average of persons per dwelling unit, Seabrook would have 236 more people.

That range of increase (196-236) when coupled with normal in-migration and out-migration of construction workers and the general population, indicates that the net increase in population will be small. It appears that there will be a net decrease in Seabrook Station related housing units during the operations phase and the in-migration of the general population will fill the void left by the departure of construction workers. It is assumed that construction workers not specializing in nuclear construction will remain.

In projected school enrollments, it is common to use a ratio of elementary school and high school students in relationship to the total community population. The enrollment in each category is expressed as a percent of the total population.

A study, "Seabrook School Enrollment Projections, Summary Report," done apparently in 1976 (it is undated and without an author cited) indicated that the enrollment ratio had been decreasing during the early and mid-1970s. This was due to a lower birth rate, a changing older population retiring in Seabrook, and an increase in smaller housing units (apartments and mobile homes). In projecting future school enrollments, the study used 13 percent of the total population for elementary enrollments and 6 percent for high school enrollments. However, the study acknowledged that these percentages were likely to decline further to 10-11 percent for the elementary enrollments with a corresponding deline in high school enrollments.

The study projected an enrollment for the grade school of 738 in 1980 using the 13 percent rate, and a high school enrollment of 341 using the 6 percent rate. However, the actual elementary school enrollment in 1980 was 614 or 10.4 percent of the 1980 population. The actual high school enrollment was 310 or 5.2 percent of the 1980 population. This discrepancy indicates that enrollments declined faster than was predicted to happen, a trend which happened in many communities in New Hampshire in the late 1970s. In Seabrook, the increase of construction workers in the late 1970s did not have a significant impact of altering the school enrollment trend.

Nevertheless, being conservative, the consultant will use the 13 percent and 6 percent figures to project the potential enrollments for the Seabrook Station employees (and their families) who may reside in Seabrook. This figure may be more appropriate to operations employees since the nature of their job is more permanent than a construction employee and may imply more of a family in-migration. This school enrollment calculation would result in the following students from operations employees:

175 residents X 13% = 23 elementary students

175 residents X 6 % = 11 high school students

Community Impact: The projected enrollment of 23 elementary students and 11 high school students is small in comparison to total enrollments. Fur-

thermore, both the Seabrook Elementary School and the Winnacunnet High School have the capacity to accept this number of students. Therefore, it is expected that Seabrook Station employees will not have a significant impact on the Seabrook School system.

FIRE SERVICE

The Seabrook Station complex has three different types of facilities in which fires might take place. They are: places where there is the danger of radioactive exposure; the electrical generating plant adjacent to the reactor vessels; and the support buildings which will be used for equipment storage and similar uses. Fires in each type of facility would require different fire fighting skills.

Seabrook Station will mainly rely on the Town of Seabrook to provide fire protection to the nuclear plant. Currently, Seabrook Station has one on-site fire truck and one ambulance for the construction phase. It is their intention to keep the fire truck, but possibly to remove the ambulance when the plant goes into the operating phase.

To the extent that fire protection at the plant requires special training for the Town firefighters, such training will be provided and paid for by the Public Service Company. In addition, any special protective materials (such as geiger counters and protective clothing) will be provided by the Public Service Company when the firefighters enter the site.

According to the Seabrook Fire Chief, the Public Service Company has not contacted the Town about a training program. He is not aware of any special equipment (fire apparatus or gear) that might be needed.

The Fire Department has the following equipment: 1980 Hendrickson 1250 gallon pump with 600 gallon water tank (lead attack piece); 1972 Ford 1000 gallon pump with 550 gallon tank; 1974 International 4WD Forestry truck with 300 gallon pump and 150 gallon tank;1965 Chevrolet bucket truck (primarily for alarm wiring); and a 1979 and a 1975 Chevrolet van ambulance. The Fire Chief believes the mutual aid system would make available any other equipment that may be needed to supplement the Town's equipment base in the event of a fire at Seabrook Station.

Community Impact: The impact cannot be fully assessed at this time. Special apparatus or additional manpower needs have not been yet determined by the Town or the Public Service Company. It would appear, however, at the least

the Town must plan and execute a training program for all firefighters. Since the Public Service Company has indicated a commitment to fund the training program, that would not have an impact on the municipal budget. However, increased manpower and equipment may be needed to provide adequate protection for Seabrook Station in a routine situation. Protection to cope with a "radiological incident" may require additional municipal expenditures.

During the last year a study committee named by the Board of Selectmen was asked to recommend a course of action regarding a fire and police building. The committee recommended the erection of a combined fire/police headquarters building to be located on Route 1. The proposal was defeated at the March 1981 Town Meeting. It is the consultant's judgement that both facilities are inadequate to meet current and future needs of the community irrespective of Seabrook Station. The placement on Route 1 admidst the most dense development in the Town would be a better location for the facility.

Since the first reactor is scheduled to come on line in 1984, the Town Fire Department should: (1) ascertain its manpower and equipment needs; (2) develop a training program and negotiate or contract for training with the Public Service Company; (3) develop a coordinated area fire response plan for a Seabrook Station fire for various contingencies; (4) order needed equipment because of the long time needed before delivery; and (5) plan for an expanded facility. These steps should be taken in the next few months in order to meet the anticipated start up of Seabrook Station.

POLICE

Seabrook Station's own internal security force will have a staff of fifty. That number of personnel is about three times the size of Seabrook's full time force of 17. In addition, the Town has 17 part-time personnel who are called in as needed for vacation or sick relief, or to supplement the force.

The Police Chief has already initiated discussions with the head of PSNH Security Force. The intention is to set up an ongoing training program for the Town police officers. However, the training program will be "piecemeal" until Seabrook Station nears completion.

The Police Department, based on many disturbances that have occurred already at Seabrook Station, has established a contingency plan. They have mutual aid agreements with other communities. Seabrook Police also have a plan coordinated with the State Police for law enforcement during disturbances.

The Police Chief requested four additional positions for the Police Depart-

ment in the 1981-1982 budget. These positions are to be used to increase the shift size by adding one patrolman to each of the shifts. This increase, however, is unrelated to Seabrook Station activities.

From a locational standpoint the Police Station is not well located. Its location is particularly a problem in the summer when tourist traffic clogs Rt. 286 impairing emergency access to the central part of the community. The present Police Station facility does not meet police needs or standards.

Community Impact: The Police Chief does not envision that Seabrook Station when it goes into operation will necessitate additional manpower for routine law enforcement duties. For civil disturbances the department will continue to rely on the mutual aid system and the State Police to supplement their efforts. Nevertheless, the Police Department, like the Fire Department, will have to participate in the development of an emergency evacuation plan in conjunction with Public Service Company.

WASTE DISPOSAL

Seabrook Station will generate three types of waste: nuclear, conventional solid waste (i.e., trash, etc.), and sewage. The handling of each is discussed below.

Nuclear. The disposal of nuclear waste is tightly controlled by the Nuclear Regulatory Commission and the Department of Transportation. Seabrook Station will have the capability to store eleven years of spent fuel. When the spent fuel is shipped out by rail, it will require a company escort but will not require municipal or other public police escort.

Solid Waste. Currently, Seabrook Station has a disposal contract with Great Bay Disposal Company to remove construction and other waste products. Since Seabrook does not provide waste disposal service to commercial, industrial, or utility users, Public Service Company will continue to contract for solid waste services through a private contractor.

Sewage. The Town of Seabrook does not have a municipal sewerage system. Seabrook Station at the present time has a sewage treatment plant which treats 35,000 gallons per day generated from the construction work. When the construction is complete, it is projected that domestic sewage treatment needs will drop to 5000 gallons per day. The treated effluent will be introduced into the cooling tunnels of the power plant and carried out to the ocean through the discharge tunnel.

Community Impact: All three of the waste disposal systems are to be provided privately. Therefore, none of them will have a direct impact on Seabrook Town services.

WATER

The Town of Seabrook has been confronted with a water problem in terms of both quantity and quality since its rapid growth in the early 1970s. The Town's water supply (and lack thereof) has been studied by several engineering firms. While it is beyond the scope of this study to describe those problems in detail, they have had an impact on Seabrook Station.

Under a contractural agreement, the Town is currently obligated to supply Seabrook Station an average of 50,000 gallons per day. Additional needed water for the construction phase is supplied from rock wells on site, which supply up to 70,000 gallons per day.

When the plant goes into its operational phase, it will require about 200,000 gallons per day on an ongoing basis. However, PSNH would prefer to have a sustained capacity of 300,000 gallons per day to provide back up for contingencies. Public Service Company is currently seeking additional sources of supply to meet their operational needs. Sources are being explored on and off site.

Community Impact: In conversations with the Water Superintendent, he indicated that the Town will only be legally obligated to continue to supply the 50,000 gallons per day. Given the Town's past difficulty in finding additional water supply sources of adequate quantity and quality, it may be some years and considerable expense before the Town can anticipate fulfilling the total water consumption needs of Seabrook Station and the rest of the Town.

Under present circumstances it would appear that Seabrook Station will have to continue to seek a reliable source of supply of its own. The Town will have to be working on a parallel track to address its water supply needs which are currently not being met.

The moratorium prohibiting new water service connections and to a lesser extent the ban on non-essential water use (i.e., lawn watering and car washing), have been factors that have prevented a higher level of growth from occurring during the late 1970s. Since virtually all of the Town is served by a water distribution system, the procurement of an adequate new supply of water is likely to have a stimulative effect on future growth.

RECREATION

The Town through the Allen Organization, Recreational Consultants, recently completed a recreation inventory as part of its plan to develop the Chase Homestead. Many of the recreation needs are addressed in the proposed development plan for the Homestead. The first phase of construction calls for a 16,200 square foot gymnasium with game room, exercise room, lockers. and support facilities. In addition, four tennis courts, picnic facilities, parking, and walkways are planned on the site. Funds for construction were approved at the 1981 Town Meeting.

In terms of use of the Seabrook Station site for recreation purposes, the Public Service Company is cognizant of its commitment to reopen Rocks Road for access to the marsh. The original commitment called for Public Service Company to reopen Rocks Road to the public by November 1981. However, because of delays in construction it is not expected that it will be available by that deadline. The use of the exclusion area for hunting and fishing, while currently treated on a case by case basis, has been discouraged by Public Service Company because of the potential for vandalism and sabatoge.

Public Service Company is in the process of developing a nature trail system through part of the marsh as part of its Education Center. This will be available to the public.

The future of the pier and barge on Route 1A has not been determined at this time. The State owns land adjacent to the pier. Public Service Compnay will continue to use the facility, through the duration of the construction process now expected through 1986.

Community Impact: The small number of people expected to reside in Seabrook as a result of Seabrook Station will not place a significant burden on the community recreation facilities. Furthermore, the new facilities at the Chase Homestead will significantly improve the Town's recreation program.

Public Service Company, while it has made certain commitments, does not expect to provide extensive access to its exclusion area land for recreation purposes. It feels that such uses pose security problems and are not an appropriate use of ratepayers' funds.

CIVIL DEFENSE

Another aspect of the presence of a nuclear generating facility is the requirement for civil defense preparedness in case of an emergency event at Seabrook Station. Since a nuclear facility is a Federally licensed operation, it is under the jurisdiction of the Federal government. An

emergency event may require the response of many levels of government as well as the licensee.

As a condition for granting an operating license, an Emergency Response Plan must be prepared and approved by the Nuclear Regulatory Commission and the Federal Emergency Management Agency. The plan must be prepared according to standards established in Federal Publication NUREG-0654 FEMA-REP-1, Rev. 1 entitled "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

The licensee, the State, and local jurisdictions all have the responsibility for preparing and having approved plans in place. The publication places emphasis on coordinated planning of an Emergency Response Plan by all of the involved organizations.

As many people are aware, the State with funding from the Public Service Company is about to hire a consulting organization to prepare emergency evacuation plans for all of the communities within a ten mile radius of Seabrook Station.

After the plan is prepared and accepted, the hardware needed to implement the plan must be in place. Such hardware may involve notification sirens for the public, emergency communications equipment for various levels of government, emergency vehicles and related equipment. In addition, all of the units of government must have an ongoing training program to keep all emergency personnel trained.

Community Impact: There is considerable controversy at the present time as to who is going to pay for the hardware and personnel needed to carry out an emergency plan. It has not been determined who among the licensee, the State, and/or the affected local governments will pay for such facilities and hardware.

Evacuation planning can only be described as in a confused state at the present time. Since the evacuation and emergency planning by an outside consultant has not yet begun, it is impossible for any given town to know what its needs are in relationship to overall emergency needs. Therefore, it is impossible at this time to determine the impact on the Town of Seabrook. Since Seabrook is likely to be among the first governmental units to respond to an emergency, it might be expected that it will have

to have the most sophisticated (and perhaps expensive) response capability.

Suffice it to say, the Town of Seabrook should expect that it will have to commit substantial resources (i.e., manpower, equipment, and training time) to preparing for an emergency event at Seabrook Station. The fiscal impact of this commitment cannot be determined at the present time.

REVENUE GENERATION AND TAX CONSEQUENCES

The single most dramatic impact that a nuclear generating facility (or any major energy generating facility) has on a community in New Hampshire is its ability to generate tax revenue for the municipality through the property tax.

A generating facility is a capital intensive investment which is taxed for its real estate value. A generating station in any community in New Hampshire is likely to be one of or the biggest single taxpayer in the municipality. In Seabrook this is especially true because of the size of the undertaking. While Seabrook does not have the highest equalized assessed value in the State, it could have by the time that Seabrook Station is complete.

Table 3.1 below shows the dramatic change over time of the public electric valuation in relationship to the total evaluation of the Town.

Table 3.1: PERCENT OF ELECTRIC UTILITY VALUATION OF TOTAL VALUATION

	1970	1979
Public Electric	$601,150	$221,505,500
Net Total Valuation	29,007,030	316,454,885
Electric as Percent of Total	2.1%	80.0%

Source: Annual Reports

The data shows that the public electric utility in ten years has grown from 2.1 percent to 70 percent of the total net valuation of the community. Furthermore, the net valuation has grown 991 percent in the decade. The public electric category grew a phenomenal 36,747 percent.

The tremendous increase in assessed value in turn allows the municipality to increase its revenue generating capability. Such an increase in the revenue base allows the community to choose to either (1) increase services greatly with a relatively constant tax rate, (2) maintain service levels with a reduced tax rate, or (3) adopt both a lower tax rate and a higher level of services. While these factors are easy to describe they are difficult to distinguish when looking at community data.

The tremendous increase in assessed value makes the tax burden much less onerous per dollar of expenditure. For example, in 1970 if Seabrook raised its tax rate $1.00 it would generate about $29,000 of tax revenue. In 1979, however, the same $1.00 increase would raise about $316,450 in tax revenue.

The total assessed value of Seabrook will continue to increase dramatically as Seabrook Station moves toward project completion. It is estimated by the Town's assessor that Seabrook Station may account for up to 90 percent of the total assessed value by the time it is complete.

The Town's increased revenue generating capacity has allowed it to increase expenditure levels significantly over the decade while still preserving a relatively low tax rate. Between 1970 and 1979, for example, expenditures for municipal purposes increased overall by 609 percent. During this time the tax rate decreased from $30.00 in 1970 to $13.70 in 1979.

In the last few years the Town Meeting has voted to expend funds on a variety of municipal projects that would have been difficult or impossible without Seabrook Station. For example, it voted to expend $680,000 for a new Town Hall, $1.5 million for a recreation center, $900,000 for exploration and development of new water sources and improvements to the system, $220,000 for purchase of beach and dune area, and $100,000 for the municipal building fund.

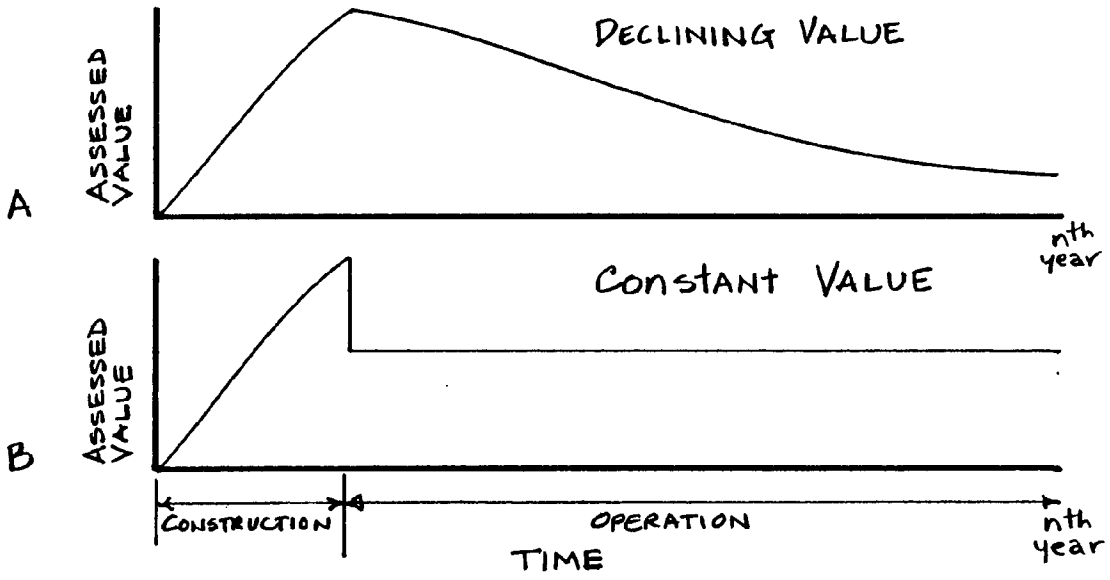
Community Impact: The short term impact of the construction of Seabrook Station is that the assessed value and revenues are likely to increase

at a rate faster than municipal expenditures thus lowering taxes. Major municipal expenditures for capital facilities are likely to be made from current revenue rather than from long-term bonds.

Over the long term, however, the Town must take care to forecast its revenue and expenditure needs. Particularly important is to evaluate the assessment policies regarding a public utility. In general terms, assessment of a public utility is not like a house, a commercial or other industrial facility. Customarily over time, houses, commercial establishments, and industrial facilities increase in value.

Public utilities, on the other hand, take the position that generating stations depreciate in value over time. This occurs, they argue, because the equipment wears out and has to be replaced and because generating stations customarily are not sold thus there is no market value for the station. Therefore, on a number of occasions there has been disagreement between municipal assessing officials as to what constitutes fair market value of the generating station.

In order to help understand the different assessing approaches two concept graphs are provided below. The first one shows the assessed value if one follows the depreciating value approach. The second one shows an approach where the assessed value is leveled out over time.



In each case, the assessed value increases up to the point when operation begins. Then under the first approach the assessed value of the plant declines as the plant ages. Under the other approach the assessed value drops to a levelized point and stays that way over time (provided that the utility does not alter the plant).

It is important to understand these differences primarily for the purpose of forecasting future revenues in relationship to community needs. For example, municipal facilities, like the new Town Offices, or services, like the water system, may require major capital improvements during the useful life of Seabrook Station. Deciding what assessing approach best meets community needs will help the Town plan wisely for its future.

SUMMARY

It can be seen from this analysis that in direct service terms the demands created by Seabrook Station are modest. That does not mean, however, that Seabrook Station has not had or will not have a profound impact on Seabrook. It has and it will have a major impact. Its single largest impact is its affect on the tax base and the ability to create revenue for the Town. By lowering the tax rate significantly Seabrook will attract development seeking a low tax rate. Therefore, the community must be prepared to deal effectively with such development proposals.

On the other side, the single largest impact that Seabrook Station will have is on emergency preparedness. If the Town has to pay for the planning, hardware, and for evacuation systems for an emergency incident at Seabrook Station, then it could be a significant expense to the Town. Another impact has been the demand on the water supply. Seabrook Station will continue to need a significant amount of water, with the Town currently unable to supply it. Future growth will be dependent on the availability of adequate water.

Community Goals 4

Community goals express the values and preferences of the citizenry of the Town of Seabrook. They are formulated by analyzing citizen surveys, interviewing municipal officials, and discussing alternatives in a public forum. Goals are not fixed, they are subject to change as conditions change. Goals or policies are established in a Master Plan which serve as a framework for discussion on the community's future land use and recommendations regarding both capital expenditures and regulatory changes.

It is important for a community to state explicitly its goals. Goals are ends toward which community effort is directed. They imply that resources (time, manpower, money, etc.) will be devoted to achieving these goals. Establishing goals allows a community to measure the progress it is making, and provides a general yardstick against which to measure development proposals.

CITIZEN INPUT

As part of this report, the citizens of Seabrook were surveyed in November 1980 by mail. All residents had the opportunity to participate in the survey as additional copies were available at the Town Hall and the Chase Homestead. The surveys were either mailed back or delivered to collection points. In December the 476 returned surveys were collated. They represented about 17 percent of the households and 19 percent of the 1980 population. (The respondents had a slightly larger family size than the Town's average.)

The survey results indicated that 36 percent of the respondents lived in Seabrook less than five years while 11 percent had been lifelong residents. Twenty-two percent were retired. Forty-one percent had previously resided in Massachusetts. People moved to Seabrook due to low taxes, atmosphere, housing, retirement, family, and the beach. Over one quarter of those responding worked in Seabrook. About 26 percent worked in Massachusetts. Fifty percent of those responding lived in single family homes, 15 percent in apartments, and 33 percent in mobile homes.

The specific results of the survey are on file in Town Hall. However, some general observations should be made here. The survey respondents were

pleased with most functions of town services and rated them highly, particularly fire, rubbish, police, highway, cemetery maintenance, town office, and water, in that order.

Respondents favored by more than eighty percent the following: "Seabrook should protect its historic buildings and landmarks." They favored by more than seventy percent the following: adding more Beach parking for Town residents; supporting more subsidized housing for the elderly; and protecting the Seabrook salt marsh. Respondents favored by more than sixty percent the following: encouraging a hospital or clinic to locate in town; housing the fire and police departments in a town-owned building; limiting the number of new dwellings built each year; providing sidewalks along major roads in Seabrook; providing bicycle lanes along major roads; encouraging establishing a direct rail connection to Boston; and agreeing that Seabrook is a good place to retire and has a great future.

More than fifty percent of the respondents agreed with the following: providing sewer service to the entire town; considering the construction of a solid waste disposal facility for the town; restricting mobile homes to certain areas in Seabrook; owning the oceanfront dunes; acquiring land for future municipal and recreational use now; establishing a tree planting program; and zoning additional land for residential use.

The survey also indicated that over fifty percent of the respondents thought that the zoning ordinance was not too strictly enforced. Over forty percent thought that additional commercial zoning was not needed. The respondents felt commercial development along Route 1 should be discouraged. However, over forty percent thought Route 1 commercial development should be encouraged as well.

These surveys, coupled with the results of Town Meeting votes, provided guidance in establishing goals for the Town of Seabrook. The Planning Board, which is elected by the residents of Seabrook, reviewed this data as it established the goals, as well as the municipal interview results.

COMMUNITY GOALS

The following section outlines broad community goals for the Town of Seabrook. These goals need further refinement when the Town of Seabrook develops its Master Plan and should cover the planning period of the Master Plan (approximately 6-10 years). If the Town grows rapidly during the planning period, the goals should be reviewed at the earlier date. These preliminary goals

which follow in this report serve to provide a suggested framework for municipal decision-making regarding the development of the Town of Seabrook.

These goals are grouped into six categories: overall development, commercial and industrial development, energy, housing, environment, and community facilities. The goals in each category are then discussed to provide the rationale and description.

Overall Development

☐ GOAL: Maintain the residential character of the community.

Residential character includes not just the housing, but the neighborhood and natural amenities of the area. Seabrook has three residential areas: the beach, south/central Seabrook, and rural western Seabrook. Each has differing characteristics. Some of these areas have been subject to commercial and/or industrial intrusions, or changes in residential types in the 1970s.

The 1980 survey contained several questions which directly or indirectly addressed the residential character of the community. The results indicated support for limiting the number of dwellings built each year, restricting mobile homes to certain areas, supporting subsidized housing for the elderly, protecting historic buildings and landmarks, and zoning additional land for residential use, and enforcing the zoning ordinance. There was support for protecting the residential and recreational area of Seabrook Beach and concern about increasing commercialization of that area.

☐ GOAL: Control the rate of development through selected growth management techniques.

Seabrook's strategic location with I-95 access and adjacent to Massachusetts, and its low tax rate (due primarily to Seabrook Station), make it a desirable place for growth to occur. Counterbalancing those factors are the lack of water and sewer, and the physical constraints which limit development. The survey indicated support for limiting building permits. It is vital that Seabrook have a growth management system that provides a vehicle for evaluating development proposals that will face Seabrook in the future.

Commercial and Industrial Development

☐ GOAL: Limit current commercial development in Seabrook to established commercial areas.

Commercial development is already well established along Route 1 in Seabrook from the Massachusetts line to Hampton Falls. Evidence of commercial conversion from residential use has taken place. There is some dissatisfaction with the current character of the commercial use, the extensive curb cuts, signs, and traffic problems along Route 1. Future commercial development on Route 1 should be carefully controlled to minimize traffic congestion, to limit signs, and to increase landscaping and improve site development.

☐ GOAL: Continue industrial use in carefully selected areas especially encouraging those which utilize little water or municipal services.

Presently industrial uses are located off Route 1, adjacent to I-95, and New Zealand Road. Use conflicts should be avoided by preventing residential and commercial uses in industrial districts. The Town recognizes the importance of diversifying its tax base and providing employment opportunities.

Energy

☐ GOAL: Maintain a positive working relationship with the Seabrook Station.

Seabrook Station should provide a sizeable property tax revenue to the town for the life of the plant. The Town has concerns which are related to Seabrook Station: assessment, Rocks Road, evacuation, fire and police protection, and nuclear waste storage. These concerns need to be addressed prior to Seabrook Station being placed in operation.

☐ GOAL: Evaluate municipal building proposals, alterations and renovations in terms of energy efficiency with an emphasis on low cost energy maintenance for all municipal buildings.

The Town, as it considers building alternatives, should maximize energy efficiency by taking advantage of siting of buildings to provide passive

solar gain, by insulating and using energy efficient windows, and by considering alternate energy solutions.

Housing

☐ GOAL: Maintain diversified housing alternatives for the residents of Seabrook.

The Town of Seabrook already has a mix of single family, apartment and mobile home housing. The 1980 survey showed a desire for subsidized elderly housing, additional residential zoning, and restricting mobile homes to certain zones.

☐ GOAL: Maintain a moderate rate of growth based on Seabrook's ability to provide community services.

In 1967, Seabrook had 1,250 dwelling units. By 1977, there were 2,692, an increase of 115 percent in ten years. Three years later, there were 2,857 dwelling units, an increase of about 55 a year. If Seabrook continues to add 55 units a year, it would have 3,242 units in 1987. Due primarily to its water shortage, Seabrook instituted an ordinance limiting development to fifteen percent of the total of previously approved lots. This water supply shortage is anticipated to continue in the 1980s. The 1980 survey showed support for limiting the number of dwellings built each year.

☐ GOAL: Maintain the area west of I-95 as a rural residential area except for the more intensely developed belt along the Interstate.

This area contains most of the Town's water sources. It is furthest from the densely developed central part of the Town. It would be costly to provide urban services to this area. Therefore, intense development should be discouraged and larger lot residential zoning should be encouraged.

Environment

☐ GOAL: Limit development in environmentally sensitive land: flood plains, steep slopes (over 15 percent), and areas with poor soil conditions, and/or inadequate drainage.

The development constraint map indicates that a sizeable portion of Seabrook (about 25 percent of the town) falls into this category. Extensive development experience shows that there are sound reasons for limiting development in such areas. Flooding conditions cause damage to property and life. Steep slopes cause erosion and sewage disposal problems. Poor soils can result in structural problems, or potential flooding, and/or pollution problems.

☐ GOAL: Secure open space for future recreation use or passive recreation to meet future community needs, protect the watershed, and maintain and secure access to important community resources, e.g. Seabrook Beach.

A community needs to set aside land now while it has the opportunity to preserve important resources for the future. The 1980 survey showed support for owning oceanfront dunes, protecting the salt marsh, acquiring land for future recreation use, purchasing the dunes west of Route 1A, and providing more parking for Town residents to use the Beach.

☐ GOAL: Protect Seabrook's architectural and historical resources.

Preservation of these resources provides a visible link to Seabrook's past and it retains buildings and structures which can no longer be economically produced or reproduced. Some of these buildings located along Route 1 are in disrepair and several have been torn down. Preservation preserves the richness of the community.

Community Facilities

☐ GOAL: Provide municipal facilities and services that expand to meet the growth of the town, in an efficient, cost effective manner.

The Town presently is constructing a new municipal facility and is undertaking a major recreation building project at the Chase Homestead. Another major concern which needs addressing in the 1980s is a fire/police complex which is more centrally located. Sewer and water needs are being further studied. The influx of the Seabrook Station tax revenue has allowed the Town to consider several major capital improvements as well as the purchase of expensive public works and fire equipment. In the 1980s it appears that there will be fewer Federal and State dollars to aid local municipalities.

Hence Seabrook will continue to rely on the property tax and its local revenues to meet its municipal service needs.

☐ GOAL: Establish a Capital Improvement Program to upgrade and expand community facilities as needed.

A Capital Improvement Program (CIP) is a planning tool to help the community budget its major expenditures over an extended period (usually six years). A CIP should be established following the completion of the Master Plan. It allows the Town to anticipate and budget for such items as a municipal police-fire complex, fire and public works equipment, road improvements, and similar costly items. Implementation of a CIP allows the Town to meet its needs on a scheduled and timely basis.

☐ GOAL: Provide municipal services in a manner which encourages orderly growth but does not place an excessive burden on the community.

Certain community services (e.g. roads, water, and sewer) can be linked to growth. The Town should encourage the provision of these services in areas in which the Town desires growth.

Recommendations 5

As part of this report the consultants were requested to prepare recommendations to the Town that would both deal with the impact of Seabrook Station and also provide guidance to the Town in its overall development process. This chapter of the report provides the Town with the following (1) data on the development capacity of the lands in the community, (2) a land use concept, (3) municipal service needs, (4) regulatory changes, and (5) a capital budgeting process.

The recommendations in this section are provided in briefer form than would appear in a Master Plan. Nevertheless, the information contained in this document can be expanded upon in the Master Plan as it is developed by the Town and its consultants.

LAND DEVELOPMENT CAPACITY

In developing land use recommendations it is first important to understand the natural systems constraints that the land exhibits. These constraints are determined by soil conditions, slope characteristics, and similar natural features.

Overall Terrain. The overall terrain of Seabrook is generally fairly flat with some 65 percent of it having less than 3 percent slope and only 1.1 percent having more than a 15 percent slope, according to the 1967 Comprehensive Plan.

The soil characteristics are divided into bedrock, tills, outwash, alluvium, dune and beach sand, and wet lowland deposits. Each has an effect on the development potential of the land.

Seabrook is unusually burdened with soils of poor or limited development capacity. As part of this contract, the consultants prepared a Development Constraint Map which shows the general soil types and slopes. It is based on soil and slope data mapped by the U.S. Soil Conservation Service from selective field investigations. The scale of the map is 1"=600'. Several soil types were mapped for a parcel of land, such as 32A/33A which indicate slightly different constraints. In general, the

soil types and slope types provide guidelines where development should and should not be channeled. However, individual variations should be expected on specific parcels of land.

This map can be used to give guidance to the developer and the Town in determining the development potential of a given piece of land. It can provide an early warning system to alert the Town that more detailed soils or engineering analysis of the site is needed.

The following discussion is based on SCS data. There are seven broad soil condition categories. They are: Group I - wetland soils, Group II-seasonally wet soils, Group III-sandy/gravelly soils, Group IV-shallow to bedrock soils, Group V- hardpan soils, Group VI-deep stony soils, and Group VII-flood plain soils.

Group 1. Wetland soils are poorly or very poorly drained soils that are wet most of the year. SCS soil types in Seabrook which fall in this category are: 5, 15, 33, 134, 514, 549, and 97.

Group 2. Seasonally wet soils include moderately well drained soils that are only wet temporarily during wet periods of the year. The water table during the summer generally is 3 to 5 feet below the ground surface. SCS soil types in Seabrook which fall in this category are: 14 and 32.

Group 3. Sandy and gravelly soils consist of well drained to excessively drained soils formed in sands and gravel. There may be considerable slope variety in this category. SCS soil types in Seabrook which fall in this category are: 10, 12, 26, 37, 38, and 612.

Group 4. Shallow to bedrock soils include shallow to bedrock soils interspersed with pockets of deeper soils. Shallow soils predominate as a thin mantle of glacial till underlain by bedrock at about 20 inches. Bedrock may be exposed as rock outcrop, or be four or more feet underground. Slopes vary. SCS soil types in Seabrook which fall in this category are: 41 and 61.

Group 5. Hardpan soils are well drained and have formed in compact glacial till. Slopes generally are moderate. Water generally moves downslope over the hardpan layer and comes to the surface as seep spots after prolonged rains. There may be surface stones five to more than 30 feet apart. There are no SCS soil types in Seabrook which fall in this category.

Group 6. Deep stony soils consist of well drained to somewhat excessively drained or loamy soils formed in stony glacial till. Slopes vary. The water table is usually more than 4 feet underground. Surface stones vary from less than 5 feet to more than 30 feet apart. SCS soil types in Seabrook which fall in this category are: 42, 62, and 63.

Group 7. Flood plain soils consist of well drained soils that formed in sandy floodwater or alluvial deposits. Slopes range from 0 to 3 percent. These soils are subject to flooding from adjacent streams at least once in 5 to 10 years. There are no soils in this category in Seabrook.

Soil classification 98 consists of Seabrook Beach and was not colored on the development constraint map. The coastal beach consists of narrow sloping strips of compact sand or gravel that may be covered by water at high tide. There are severe septic constraints.

Slope categories are commonly divided into 0-3% (A), 3-8% (B), 8-15% (C), 15-25% (D), and over 25% (E). In Seabrook there are no steep slopes. Hence the development constraints are generally caused by soil types.

On the following page is a matrix which reflects the soil groups and slope data. Four broad categories were developed reflecting these conditions. Each category then was translated into a rough guideline to determine approximate density. These development constraints apply to septic systems and housing with basements.

Then from the chart and from the soil data provided by SCS, the development constraint map was prepared. It is the graphic expression of the data provided in the matrix. This map also can be overlayed with the property map as a mechanism to alert the Planning Board to potential development problems on a given parcel of land.

DEGREE OF DEVELOPMENT CONSTRAINTS

soil condition groups	slope (in percent) 0 -3	3 - 8	8 - 15	15 - 25	over 25
Group 1	●	●	N/A	N/A	N/A
Group 2	■	■	■	O	●
Group 3	✱ [1]	✱ [1]	■ [1]	O [1]	●
Group 4	O	O	O	O	●
Group 5	■	■	■	O	●
Group 6	✱	✱	■	O	●
Group 7	●	N/A	N/A	N/A	N/A

1. except where pollution potential would occur due to excessively drained soils.

DEVELOPMENT CONSTRAINT KEY

✱ Minor. This combination of soil and slope has the least number of constraints for development. Generally, these soils are best suited for accommodating septic systems (without potential for groundwater pollution) and for housing. Minimum lot sizes (with one dwelling unit per lot) would

range from 30,000 square feet to 45,000 square feet.

■ Moderate. This combination has a higher level of development constraints. While development can take place in these areas, problematic conditions can be expected which will necessitate a large lot size. Minimum lot sizes might run from 40,000 to 80,000 square feet.

O Severe. This combination has the highest level of development constraints. It does not mean, however, that no development can or should take place. It does suggest that the building location and subdivision layout would have to be carefully placed to avoid problem areas. Minimum lot sizes would be in excess of 80,000 square feet.

● Open Space. The soils/slopes in this category have such poor development characteristics that the land should remain in open space. This combination consists either of flood plain and/or wetland soils which are poorly or very poorly drained.

N/A. This category simply indicates that soils and slopes in that combination do not exist.

LAND USE CONCEPT

As part of this report the consultants have developed a future land use concept for review by the Planning Board. It shows how the community could be developed. The land use concept is based on several factors: the existing land use pattern, the natural systems characteristics, the goals statement developed as part of this report, a 1980 survey of the citizenry, and technical planning issues.

Location of Development. Preferred locations for development are obviously those areas where there are few, if any, development constraints. Seabrook's Development Constraint Map can be used as a guide to suggest locations for such future development. This map delineates areas of limited development capability. The areas are a composite of flood plains, severe soils, steep slopes, and wetlands.

Development should be channeled away from areas which have natural development constraints. The following characteristics indicate where development is discouraged:

- Within the area mapped by the Federal Flood Insurance Administration as subject to 100 year flooding.

- Within areas exhibiting severe soil conditions for residential septic disposal systems, as defined by the U.S. Soil Conservation Service.

- On slopes in excess of 15 percent particularly where erosion of soil may take place from the loss of vegetative cover and the lack of soil depth.

- Where aquifer and aquifer recharge areas are thought to be located as well as the watershed of the municipal reservoir.

- Where agricultural lands are located that provide and support truck crops, pasture crops, and livestock.

- Where important wildlife habitats, ecological preserves, and areas of archeological/historical value are located.

- Where man-made uses, (for example, communication towers, utility transmission lines, high noise areas, and aircraft flight paths) create a nuisance or a health and/or safety hazard.

- Where forest lands are managed, such as Certified Tree Farms.

Timing of Development. The Town has experienced very rapid population growth in the past three decades particularly in the 1970s. Its proximity to major employment centers in southern New Hampshire, its low tax rate and its strategic location, indicate that it will continue to face growth pressures in the decade of the 1980s and beyond. A commitment is made to allow continued growth provided that such growth does not adversely affect the natural environment, create excessive service costs and demands, or adversely affect the quality of life in Seabrook.

Land Use Types and Locations. The Town of Seabrook exhibits a mixed development pattern with many types of uses intermingled. Furthermore, it has extensive undeveloped land particularly in the marsh area. A small amount of land is devoted to public and semi-public uses, but there is extensive strip development along Route 1.

 The land use concept described in future paragraphs expresses how Seabrook's

land use pattern might be organized. The following uses and locations are suggested:

Low Density Residential. This category of land use is suggested in those areas which have already developed in a single family pattern and where development constraints limit future development. The lot size is suggested to be one acre or larger depending on soil characteristics. Single family housing (and cluster development) would predominate in this area. These areas would be located in the western quarter of the Town in the vicinity of New Zealand Road, True Road, and Blacksnake Road and Ledge Road, also between I-95 and the salt marsh excluding the Route 1 strip and the industrial uses in the northern sector of that area. It is not envisioned that commercial uses would be allowed in this residential category.

Medium Density Residential. This category is located in the vicinity of previously developed apartment complexes and in the Seabrook Beach area. The lot size would be one acre or less depending on the development characteristics. Here again a cluster concept would be allowed to prevent excessive sprawl and service costs to the community.

Commercial. The commercial land use is reserved for retail uses, professional, business, personal services, offices, restaurants, and similar consumer uses. Such commercial uses should be concentrated in areas of high visibility and good highway access, and where they will not conflict with the established residential land use pattern.

Commercial activity is suggested for the Route 1 area, at the intersection of Route 107 and Weare Road, and at two limited locations (intersection of Route 286 and 1A, Route 1A and River Street) in the Seabrook Beach area.

The proposed commercial areas recognize the existing pattern. However, steps should be taken to avoid lengthening the commercial strip. Future development should be carefully controlled through a site review process that limits curb cuts, controls setbacks, controls signage and sets up minimum landscape standards.

Industrial. The industrial category is reserved for uses that manufacture or process products or provide a distribution service. A fair amount of land is already designated for industrial use, but because of peculiar

zoning characteristics, it conflicts with residential and other non-industrial uses.

Industrial use areas are suggested west of the Interstate to Stard Road and South to Route 107 and on both sides of Service Road south of the extension of Ledge Road. Small industrial areas are suggested around K.J. Quinn, and Welpro Shoe Company. A larger area is suggested for Bailey Company and the Public Service Company land.

Conservation/Open Space. Areas which exhibit severe development constraints are recommended to be in a conservation or open space category. There are two different types in this category. One type of conservation land is that which exhibits poor soil characteristics and is along major brook areas. This area would be an overlay to the allowed uses and would guide development away from the poor soils.

The other type would be those areas which should not be developed because of the development limitations. In Seabrook's case, the marsh would constitute most of this open space land. In addition, some very wet and low land between the dog track and the Interstate is suggested for open space status.

Public/Semi-Public. These land uses compromise municipal buildings, churches, schools, cemeteries, parks, and similar uses. Institutional uses give the community a physical identity and they should be retained and reinforced wherever possible. They are scattered through the central third of the community.

Public Water Supply. Seabrook's water problems suggest that existing and future water supply areas should be identified and protected. Three existing well fields and their surrounding lands are shown - one off Mill Lane, the second off True Road, and the third off Ledge Road.

MUNICIPAL SERVICES

In order to meet the needs of a growing community, municipal services and facilities may have to be expanded. In our society, however, while there is a general perception that private sector growth is viewed as positive, public sector growth is viewed as negative. Therefore, it is often necessary for a public need to reach "crisis" proportions before the governing body can be convinced to allocate funds to meet the public need.

This section seeks to identify public needs in advance so that the community will be aware of them before they reach crisis proportions. Based on interviews with department heads, community growth trends, and general planning standards, it appears that some community services and facilities will be needed or need to be upgraded in the next decade.

Seabrook is in the enviable position of having the revenue base to pay for most of their municipal service needs through current revenue rather than through long term bonding.

General Government. The Town through the completion of the Town Hall will have a facility that will meet its needs for the forseeable future.

While staffing is normally outside the scope of a development plan, one position does appear needed to meet the demands of a growing community. That is a full time building inspector/zoning officer. As development activity mounts in the coming decade, along with site review, and Board of Adjustment activity, it would appear that a full time inspector will be needed.

Public Safety-Police/Fire. The Town proposed a new public safety complex at the 1981 Town Meeting. Although defeated, such a complex is needed. Both of the existing facilities appear inadequate to meet the needs of the community over the long run. Neither is centrally located near the center of community activity. The critical role that both organizations will play in the event of a nuclear emergency suggests that their facilities should meet a high standard for service delivery.

REGULATORY CHANGES

The Town of Seabrook has a limited range of ordinances to regulate the development of land. As part of this report, all of them were reviewed to determine their current adequacy.

The following critique of the ordinances and regulations is intended to provide the community with observations and suggestions for revisions.

Seabrook Station has created a unique situation in the development of the community. While Seabrook has many development constraints on its land, the potential and the pressure for future development is great.

If the experience of other nuclear power towns runs true in Seabrook, it will be in the next five years that major pressures for additional develop-

ment will occur. Since Seabrook Station began construction, change has already taken place. Thus it is timely to review these ordinances.

In general the consultants believe the Town is currently not well equipped from a regulatory standpoint to deal with the development pressure that is likely to manifest itself in the next decade. The consultants assessment of each regulatory device follows:

Zoning Ordinance

The Zoning Ordinance being reviewed was adopted on March 5, 1974 and was subsequently amended in 1977, 1979, and 1980.

In general, the Zoning Ordinance is in need of considerable revision. In many areas it is written in an ambiguous manner causing various interpretations of many provisions.

It appears to be an ordinance that was drafted to minimize the control of land. In fact, in one area, Zone 5 which encompasses the salt marsh, any use is permitted. Sound planning principles suggest that this area of the community is environmentally fragile. Therefore, it should be afforded the most protection, not the least.

The Zoning Ordinance provides little control of any development in the community. Other factors - a water shortage, poor soil and drainage conditions, and lack of sewer - are exerting far greater control on the development of the community than is the Zoning Ordinance.

To the extent that those factors (water and sewer) are corrected, the community will be very vulnerable to large scale development. Such large scale developments (residential, commercial, or industrial) would be attracted to Seabrook due to its tax rate, transportation access, and proximity to markets.

If the Town wants to control the location, character, and type of development, then extensive revisions should be made to the Zoning Ordinance. Below are listed the minimum features that should be present in a Zoning Ordinance. It was not possible to identify and explain all of the minor details that require some attention.

The consultants recommend the following actions be considered:

Districts. Define the general purpose in each district and give it a general description in the heading (i.e., Residential, Commercial, Industrial, Open Space, etc.). The purposes will give the reader and the court an idea of what the town was trying to achieve in each of the districts. The uses allowed should reasonably relate to the purposes of the district.

Pyramiding. Currently, each lower district allows the uses in the previous district - which is called pyramiding. Thus in districts 2, 3, 5, and to a lesser extent 1, a mixture of residential, commercial, and/or industrial uses are allowed. With minor exceptions, each of these major divisions should be mutually exclusive. Without this provision, the Town develops with land use conflicts built in. For example, a manufacturing facility might be located right next to housing. Industries and homeowners both are left without protection and buffering from one another.

Dimensional Requirements. These definitions are poorly written and subject to confusion. This section could be much more clearly written through the use of a table of dimensional requirements. They are easier to read and less ambiguous. Logical tables, in addition to the dimensional requirements, might include: 1) uses, 2) sign characteristics, 3) parking space requirements, and 4) special exceptions.

Special Exceptions. There do not appear to be any uses permitted by special exception. Such uses are allowed upon the approval of the Board of Adjustment, if certain criteria are met as expressed in the Ordinance. This is a useful tool in controlling uses that may present special problems (e.g., traffic, noise, etc.) if not reveiwed by a public body. It is recommended that such special exceptions be provided for the Ordinance.

Signs. It does not appear that signs are controlled in any way. It is legitimate to control their location, size, number, and lighting features as a public safety and welfare measure. Actual design is more problematic. A sign control article is suggested.

Housing Types. The existing ordinance allows apartments but density and frontage limitations practically prevent apartment development. Furthermore, no new mobile home parks can be established. Both will limit the future range of housing choices available to the community.

 The Town may want to consider less traditional housing types by allowing

clustered housing. A cluster approach calculates the number of units that could be built on a parcel of land using a traditional approach. Then some number (or a slightly higher number) are allowed to be built in groupings (clusters) on a part of the parcel. The purpose is to reduce service costs (roads, water lines, etc.) and to increase the amount of common open space.

Site Plan Review. In the subdivision section of this memorandum there is a discussion of the site plan review procedure. If it is to be established, the site plan review should be referenced in the Zoning Ordinance so that there is a clear link between them.

Sanitary and Safety Provisions. The reporting requirement of applications falling within the jurisdiction of the WSPCC, while desirable, might better appear in the Town's general police powers and not within the Zoning Ordinance.

Nuisance Control. This provision, while it has laudatory objectives, is currently vague. It would be strengthened if it were more carefully defined and drawn as a criteria for approval of future developments as well as correcting existing conditions.

Flood Hazard Provisions. The Zoning Ordinance has two separate references to flood hazard provisions: one in the Building Inspector Administrative Procedures and one in the section entitled Building Code Ordinance (which appears to be a misnomer). These could be combined in a special article. A reference should be made to the Flood Hazard maps which should comprise an overlay district.

Wetlands District. There does not appear to be a wetlands overlay district which would control development in a fresh water or tidal wetland. Such a district is very important for Seabrook because of the vast amount of land in this category.

Relationship to Subdivision. There should be a statement linking the Zoning Ordinance to the Subdivision Regulations and to the role of the Building Inspector for development of existing or newly created lots.

Board of Adjustment. While the Ordinance creates and continues the Board of Adjustment and relates it to the State law, it would be advisable to spell out its duties, provide terms, and other factors so that a reader

doesn't have to refer to another document.

The above comments cover most of the major points that were observed which need to be addressed. In addition, the Ordinance would benefit from re-organization and simplification.

In the final analysis, however, the Ordinance should be re-written after a full Master Plan has been developed so that it is in concert with the goals and objectives of the Master Plan.

Subdivision Regulations

In general the Subdivision Regulations are in better condition than the Zoning Ordinance. The Regulations follow a fairly standard format that is customary. The consultants recommendations in this section are less extensive than those made for the Zoning Ordinance.

The consultants recomend consideration of the following issues:

Format. The order of the document is somewhat unusual. Customarily the purposes, administrative procedures, and definitions are expressed first. They are followed by the substantive requirements. This change is suggested.

Preliminary Plans. Recent court cases have strictly interpreted the 90 day review requirement particularly as it relates to the 90 day rule. It is suggested that the "Preliminary Plan" section be made optional on the part of the subdivider and that it clearly be stated that no time limits run from a preliminary subdivision.

If the subdivider wishes to submit a final plan on the first day he/she appears before the Board, he/she should be permitted to do so. However, in so doing, he/she may run the risk of having to modify the plan as a result of the Planning Board's findings. The applicant should have the choice.

The starting point of the 90 day review period should be clearly stated so there is no confusion. The submission of an application, required plans, and the payment of an application fee are all essential ingredients.

Recording of Plat. Once the plat has been approved by the Planning Board, it should be recorded by the Town not by the subdivider. Fees for recording should be paid at the final hearing.

Criteria for Review. The Regulations should spell out in detail the criteria that the Planning Board will use in evaluating the acceptability of a subdivision request. This will help the Board and the applicant know what is expected. The criteria should contain both on-site and off-site impact assessment factors.

Highway Standards. The criteria for street construction needs further amplification. This can easily be done by providing cross sections which describe the material required and its quantity.

Dedication of Land. The Regulations do not appear to require, in appropriate circumstances, the dedication of land for legitimate public purposes related to the development of the subdivision. Such purposes might include land for parks and playgrounds, school, and other municipal needs. This provision might be added.

Cluster Provisions. A statement allowing cluster developments could be added and linked to the Zoning Ordinance, if this type of use is desired.

Relationship to Zoning. There should be an explicit linkage to the Zoning Ordinance regarding lot size and similar provisions so that they are consistent.

These Subdivision Regulations, the consultants believe, can be updated without a tremendous amount of rewriting.

Site Review

The existing Site Review document is totally inadequate and is virtually non-existent. An earlier memorandum dated December 31, 1980 described a course of action. It is in this area that the Town is most vulnerable from development pressure. It does not have the tools necessary to evaluate such developments.

Site Plan Review regulations should be developed as an adjunct to the Subdivision Regulations and should have the same administrative processing requirements.

When the process is developed, there should be a provision requiring a site plan approval before a building permit is issued.

Once a Master Plan is developed, this is an area of high priority which should be addressed with deliberate speed.

Other Ordinances

A review of recent Town Meeting actions indicates that the Town has not adopted the Building, Plumbing, Electrical, Housing or Life Safety Code. Therefore, it is not possible to comment on them.

Generally, the BOCA codes are the ones most commonly used. They are usually adopted by reference with local administrative provisions.

Probably the first priority would be the adoption of a Building Code which is important for establishing minimum construction standards.

CAPITAL BUDGETING PROCESS

A Capital Improvement Program is a budgetary document which forecasts major (usually in excess of $5,000) normally non-recurring expenditures for a six year period with the first year being the Capital Budget. These expenditures may be for municipal land, buildings, services (e.g., water and sewer, etc.), or equipment (e.g. fire trucks, road equipment, etc.). Projects may be needed to correct existing deficiencies, provide an extension or expansion of services, or provide new activities or services.

The scheduling of capital improvements can be used to help manage the community growth, by anticipating future needs and servicing future growth. Under a recent New Hampshire Statute, a Town must have a Master Plan and a Capital Improvement Program adopted by the Planning Board if it intends to control the rate of growth of the community. Therefore, it is an important part of the planning process.

Currently, Seabrook does not have a comprehensive Capital Improvement Program. A well prepared Capital Improvement Program is designed to: 1) provide an overall picture of the Town's major capital needs; 2) establish priorities for various projects; 3) discourage piecemeal improvements and avoid duplication of expenditures; 4) coordinate activities of various departments; and 5) provide an opportunity for citizens to comment on the proposed

improvements and priorities. When the program is adopted and fully utilized, it insures that needed facilities are provided on a timely basis and within the financial capability of the Town.

This report recommends the establishment and annual updating of a six year Capital Budget and Improvement Program for the Town. Establishing the program would assist in planning for the future and would allow the Town to exercise the full range of growth management options.

The Capital Improvement Program would have the following components: 1) a general discussion of the purposes and benefits of a Capital Improvement Program; 2) a discussion of the community's financial capacity, method of funding, and the maximum tax impact of the proposed projects; 3) a description of the proposed projects for the six year period, their costs, timing and method of funding; and 4) recommendations by the Planning Board of its priorities.

Procedure. The responsibility for preparation of a Capital Improvement Program can be given to a variety of municipal organizations. It could be the responsibility of the Selectmen, the Budget Committee, and/or the Planning Board with staff support of the Administrative Assistant.

One approach would have the Board of Selectmen, acting as coordinators for the program, prepare and distribute annually the Capital Expenditure request forms to the various department and agency heads. Department heads would be asked to identify their capital expenditure needs for the next six years specifying costs and priorities.

After the requests have been compiled, a joint sub-committee consisting of members of the Board of Selectmen, Planning Board, and Budget Committees would meet to analyze the requests, set priorities, and make funding recommendations. Interviews with department heads may be desired to provide a fuller understanding of the requests.

The joint sub-committee form is suggested to facilitate dialogue among Town bodies. It is important for the Planning Board to be involved because, under RSA 31:62-a, they are required to prepare and adopt a Master Plan and Capital Improvement Program. Furthermore, a CIP, is an important planning tool.

Once the Capital Improvement Program is prepared and adopted it would proceed through the normal budgetary process. Each year the process would be repeated and the program updated. In addition, a review of the previous year's funded projects would be prepared.

NEXT STEPS

The Planning Board has been conducting a series of studies over the past few years as part of a larger effort to update the Town's Comprehensive Plan. This study brings that objective closer to reality.

In order to complete the comprehensive planning process the Planning Board should employ a planning consultant to undertake the following:

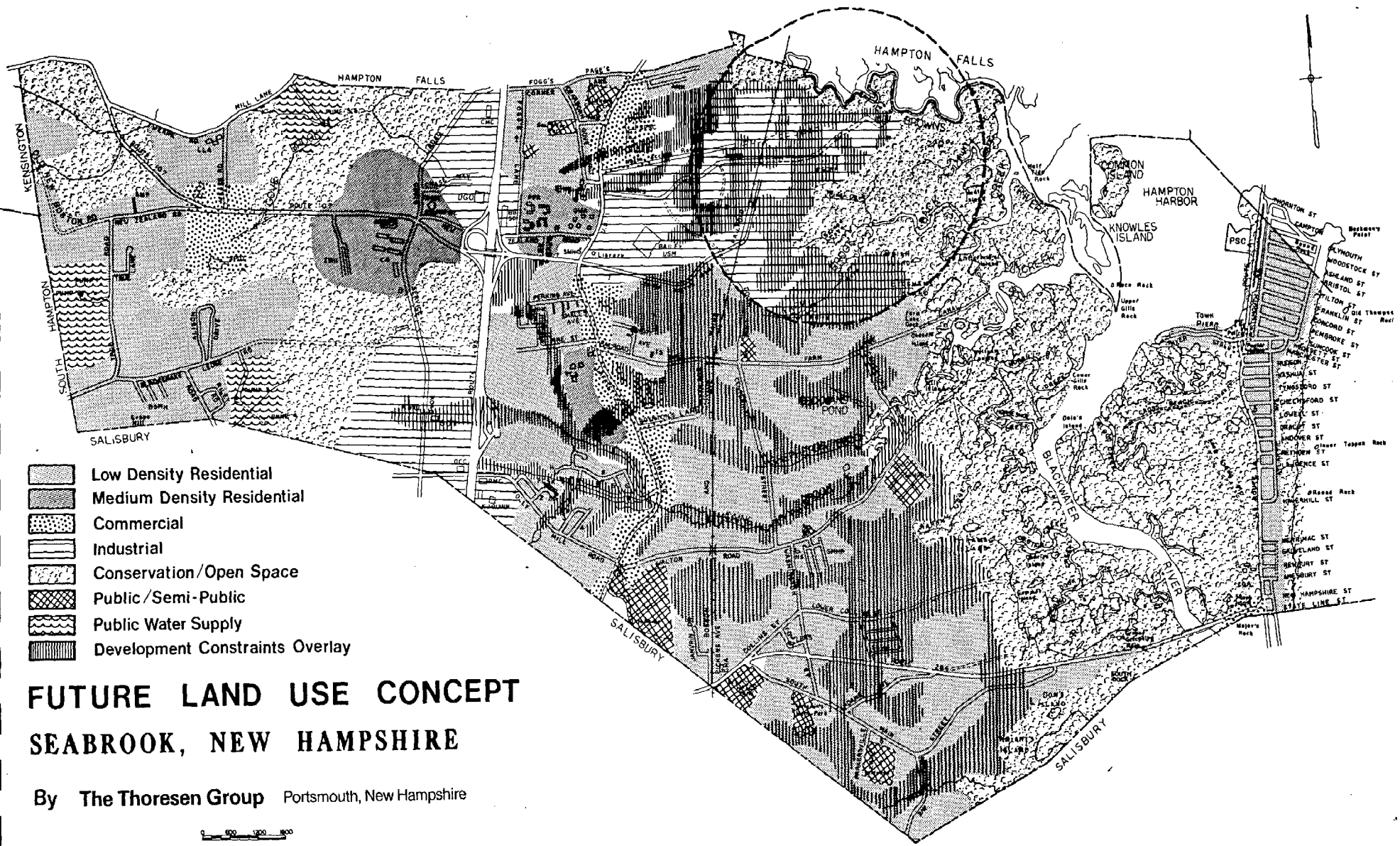
1. Refine and amplify the material presented in this document.

2. Debate fully the goals and the land use proposals.

3. Prepare a full comprehensive plan document.

4. Prepare or change land use regulations to insure compatibility with the Comprehensive Plan.

5. Develop a capital improvement program as part of the plan.



FUTURE LAND USE CONCEPT

SEABROOK, NEW HAMPSHIRE

By **The Thoresen Group** Portsmouth, New Hampshire

Appendices

CAPITAL IMPROVEMENT PROGRAM

Attached is a Capital Improvement Program "Project Request Form." The Capital Improvement Program can be established and implemented following the completion of the Seabrook Master Plan. It is designed to cover a six year time frame with the first year serving as the capital budget. Each year the process is reviewed, new programs or projects are added or deleted, new cost estimates are made, and the program is extended to include the subsequent six years.

The process would be part of the budget cycle. The Board of Selectmen and Budget Committee would work with the Planning Board to develop this program.

DEFINITION OF A CAPITAL PROJECT

As used in Seabrook's Capital Improvement Program, a capital project is defined as a major expenditure (usually non-recurring) made infrequently which includes one or more of the following:

1. Any acquisition of land for a public purpose;

2. Any construction of a new facility such as a public building, or water lines, playfield and the like, or an addition to (or extension of) such a facility;

3. Non-recurring rehabilitation or major repair of all or part of a building or facility, i.e., something which is infrequent and would not be considered annual or other recurrent maintenance; provided the cost is $5,000 or more, which have a useful life of five years or more;

4. Any specific planning study or design work related directly to an individual project.

CAPITAL IMPROVEMENT PROGRAM

INSTRUCTIONS FOR PROJECT REQUEST FORMS

1. GENERAL INSTRUCTIONS

Attached are project forms for your department to complete. The period covered is July 1, 1982-June 30, 1983. If you are contemplating no capital improvements in the next 6 years, please write N/A and return it.

Forms should be completed and returned to the Planning Board by September 1, 1981. After the forms are completed, department heads will be asked to appear before the Capital Budget subcommittee composed of representatives of the Planning Board, Selectmen, and Budget Committee to explain their capital improvement requests.

2. INSTRUCTIONS FOR PROJECT REQUEST FORM

A. Prepare a separate form for each project submitted in duplicate.

B. Submit one copy to the Board of Selectmen and keep one for your records.

C. In future years, if the project is resubmitted, please revise the expenditure estimates to reflect current costs.

D. Below is a description of the attached form.

1. Project Number. Leave blank. The Capital Budget subcommittee will assign a number.

2. Department. Put name of your department.

3. Project or Equipment. Enter a short appropriate title.

4. Description Purpose of Project. Identify the project. Where it is located, and why the project is necessary. If it is related to another government project, indicate the relationship.

5. Priority. Enter here your assessment of the priority need for the project by circling the appropriate letter. The categories are outlined below:

A. Projects which are very essential and should have been implemented in the past or which have arisen from an emergency situation that was not foreseen earlier.

B. Projects which cannot reasonably be postponed. These may be needed to complete an essential, partially finished project, to maintain a minimum, presently established departmental program.

C. Projects which should be carried out within a few years to meet anticipated needs of a current departmental program or for replacement of unsatisfactory facilities.

D. Projects needed for a proper expansion of a departmental program. The exact timing of these can wait until funds are available.

E. Projects which would be needed for ideal operation but which cannot yet be recommended for action. They can be postponed without detriment to present services.

6. Blank. If your department is submitting more than one project, please rank each in order of importance, e.g., 1 out of 5 (1/5).

7. Estimated Cost. Identifying accurate projected costs is a most important aspect of this program. Carefully calculate all costs which are likely to be incurred for the categories listed.

8. Effect on Budget. Enter the effect this project will have on the Town's operating budget both in dollar and personel terms. If the project will bring in revenue, place that under "other", subtract the difference, and enter a total.

9. Source of Funds. Enter the funding source(s) to complete the project. If more than one, indicate the percent allocation.

10. Starting Date of Project. Enter the project year.

11. Completion Date of Project. Assuming the project will begin when requested, enter when it will be completed.

12. Comments. Enter any points to clarify or document the project, if plans were prepared, indicate their status.

13. Relationship to 1981 Master Plan. Leave blank. The Planning Board will complete this after reviewing the project's relationship to the Master Plan.

If you have any questions, please contact the Planning Board Chair.

CAPITAL IMPROVEMENT PROGRAM Project Request Form	1. Project Number

2. Department:

3. Project or Equipment:

4. Description/Purpose of Project:

5. Priority:	7. Estimated Cost:	8. Effect on Budget:
A.	Land:	Operation:
B.	Construction:	Maintenance:
C.	Equipment:	Personnel (#):
D.	Other:	Personnel ($):
E.	Total:	Other:
6.		Total:

9. Source of Funds:

(1) Current Revenue
(2) General Obligation Bonds
(3) Revenue Bonds
(4) Federal Grant
(5) State Grant
(6) Special Assessment
(7) Other - Specify _____

Explanation: _____

10. Starting Date of Project:	11. Completion Date of Project:

12. Comments:

Signature: Title: Date:

13. Relationship to 1981 Master Plan (to be filled out by Planning Board)

BIBLIOGRAPHY

Reports

Allen Organization, "Comprehensive Park and Recreation Plan", 1980.

H.B. Gamble, R.H. Downing and O.H. Sauerlender, "Effects of Nuclear Power Plants on Community Growth and Residential Property Values", Final Report. Penn State 9/30/77-11/15/78.

Harbridge House, Inc., "The Social and Economic Impact of a Nuclear Power Plant Upon Montague, Mass. and the Surrounding Area", November 1974.

Howard Needles Tammer and Bergendoff, "Review of Socio-Economic Impacts of the Calvert Cliff Nuclear Power Plant on Calvert County, Md. and Comparison with Kent City, Md.", January 1975 Maryland Power Plant Siting Program.

Richard S. Krannich, The Center for the Study of Environmental Policy "The Impacts of Nuclear Power Plant Developments on Community Service Capacity", Penn State University, March 1978.

Metcalf and Eddy, Inc., "Growth-Related Impacts of the Pilgrim II Nuclear Power Plant, Plymouth, Masaachusetts", December 1979.

The Thoresen Group, "Municipal Coastal Inventory and Assessment", Seabrook, New Hampshire, May 1979.

The Thoresen Group, "Options for an Urban Development Policy", May 1980.

Waterford, Connecticut, "Questionnaire", Volumes I and II, June 1976 and April 1978.

U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, "Report on Site Suitability, Pilgrim Station Unit 2", April 14, 1977.

Unpublished Correspondence

Gregory A. Bowen to Noel Simpson, Calvert County Department of Planning, Prince Frederick, Md. 20678, 5/7/79.

Samuel H. Butterfield, Plymouth Planning Department to Susan W. Thoresen, 3/10/81.

Telephone Conversations

Sam Butterfield, Plymouth Planning Department, Mass
Richard Erikson, South East Regional Planning Council, Connecticut
Allen Hawkins, Oswego County Planner, New York
Steven Holmes, Mid-State Regional Planning Council, Connecticut
William Schmidlt, Windham Regional Planning Commission, Vt.
Town Clerk, Oswego, New York
Town Clerk, Wiscasset, Maine